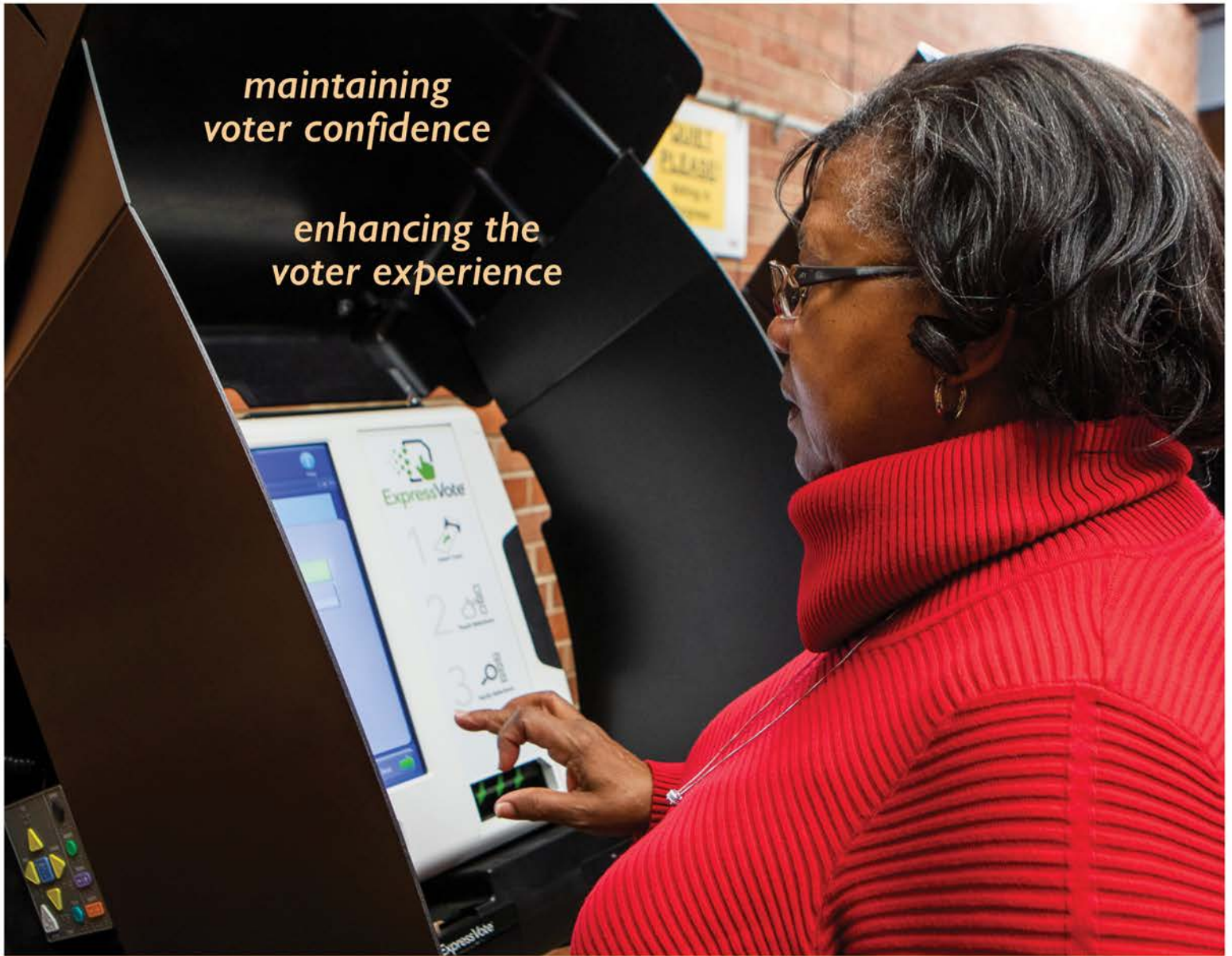


*maintaining
voter confidence*

*enhancing the
voter experience*



State of Georgia
Electronic Request for Proposals
Statewide Voting System
Event Number: 47800-SOS0000037

Redacted Copy – Available for Public
Review

April 23, 2018 at 2 p.m. EST

Election Systems & Software, LLC
11208 John Galt Boulevard
Omaha, NE 68137

Jeb Cameron, Regional Sales Manager



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April 23, 2019

Verneicher Favors
State of Georgia
2 Martin Luther King Jr. Drive,
West Tower, Atlanta, Georgia 30334

RE: Electronic Request for Proposals 47800-SOS0000037 for Statewide Voting System

Dear Ms. Favors:

Thank you for the opportunity to present the State of Georgia this request for proposal for a new voting system. **Election Systems & Software, LLC (ES&S)** is pleased to offer our fully-integrated voting system and elections management solution.

We have appreciated our current working relationship with the State of Georgia in conducting secure and accurate elections. During the course of the past ten years, ES&S has worked diligently to create a network of support and resources that Georgia elections officials have found, and will continue to find, invaluable as they manage the monumental task of administering elections. Our local team would like nothing more than to continue those relationships by providing the State of Georgia with a new voting system.

KEY ASPECTS OF THE ES&S SOLUTION FOR THE STATE OF GEORGIA

The election-proven system we are proposing for the State of Georgia has been used in binding elections throughout the United States.

ES&S proposes the following hardware and software and will perform the accompanying training, maintenance and election support in a professional and timely manner to meet the objectives and goals detailed in your Request for Proposal.

- ✓ Electionware Election Management System
- ✓ ExpressVote Universal Voting System
- ✓ DS200 Precinct and Central Scanner and Tabulator
- ✓ DS450 High-Throughput and DS850 High-Speed Central Scanners and Tabulators
- ✓ ExpressPoll Electronic Pollbook

WHY CHOOSE ES&S?

ES&S is the largest American owned elections-only company in the United States with over 40 years of experience supporting elections. For more than 20 years, ES&S has enjoyed the same committed owners. With more than 500 election-focused associates, and ownership that provides solid financial strength, ES&S is well-positioned to continue its long-term commitment to the industry and its current and future client base.

Today, not only do we work with many of the same customers we've served for over four decades, but our business has also grown to serve 42 states and more than 3,300 clients. Nearly 100 million registered voters

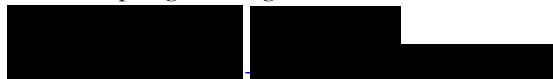
tabulate with ES&S. Continuing to choose ES&S as your vendor of voting equipment, software and election services keeps you in good company.

Thank you for considering our proposal. We appreciate the opportunity to present our proven voting system to you and look forward to a continued partnership. If you have any questions, please feel free to contact me. We stand ready to move the State of Georgia to the next level of voting technology.

Respectfully,



Jeb Cameron
Regional Sales Manager
Powder Springs, Georgia





RFX Addendum Form


RFX Number: 47800-SOS0000037	RFX Title: Statewide Voting System
Requesting State Entity: Secretary of State	
Issuing Officer: Verneicher Favors	RFX Initially Posted to Internet: See GPR
eMail Address: vfavors@sos.ga.gov	Telephone: (404) 656-0998
Addendum Number: 1	Date: 03/25/2019

The purpose of this addendum is to submit the State Contract as Attachment U to this eRFP. In the event there are Contract Exceptions please use Attachment I – Contract Exception Form to list all exceptions to the contract.

Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Election Systems & Software, LLC

Supplier's Name


Signature

Richard J. Jablonski, Vice President, Finance

Printed Name and Title



RFX Addendum Form

RFX Number: 47800-SOS0000037	RFX Title: Statewide Voting System
Requesting State Entity: Secretary of State	
Issuing Officer: Verneicher Favors	RFX Initially Posted to Internet: See GPR
eMail Address: vfavors@sos.ga.gov	Telephone: (404) 656-0998
Addendum Number: 2	Date: 03/27/2019


The purpose of this addendum is to submit the updated copy of the eRFP Document. The update is to page 19 list of eRFP Attachments the Contract Exception Form has been added as Attachment V.

All other information remain the same.

Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Election Systems & Software, LLC

Supplier's Name


Signature

Richard J. Jablonski, Vice President, Finance

Printed Name and Title



RFX Addendum Form

RFX Number: 47800-SOS0000037	RFX Title: Statewide Voting System
Requesting State Entity: Secretary of State	
Issuing Officer: Verneicher Favors	RFX Initially Posted to Internet: See GPR
eMail Address: vfavors@sos.ga.gov	Telephone: (404) 656-0998
Addendum Number: 3	Date: 03/28/2019

The purpose of this addendum is to submit the following documents from the Prebid Conference scheduled March 28, 2019 at 10:00a.m.:

Pre-Bid Sign In Sheets
Powerpoint Presentation

The Transcript from the prebid meeting will be posted at a later date.

All other information remain the same.

Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Election Systems & Software, LLC

Supplier's Name

Signature

Richard J. Jablonski, Vice President, Finance

Printed Name and Title



RFX Addendum Form

RFX Number: 47800-SOS0000037	RFX Title: Statewide Voting System
Requesting State Entity: Secretary of State	
Issuing Officer: Verneicher Favors	RFX Initially Posted to Internet: See GPR
eMail Address: vfavors@sos.ga.gov	Telephone: (404) 656-0998
Addendum Number: 4	Date: 04/12/2019

The attached information, provided by the issuing State Entity, is made a part of this RFX. The purpose of this addendum is to revise the RFX as follows based on questions submitted:

1. Revised Attachment A eRFP document:

The initial term of the contract(s) is for 10 calendar year(s) from the execution date of the contract(s). The State Entity shall have 10 one (1) year option(s) to renew, which options shall be exercisable at the sole discretion of the State Entity.

2. Revised Attachment F Cost Worksheet:

The upper section of Implementation and Training Cost is a worksheet, cell F19 is captured in cell E21 and is already included in Line Total cell E35. Therefore, you do not need to include Line 19 in the Total for Line 35.

The calculation line should include EMS and EPDMS. (Post Warranty Tab)

The year 2020 pricing should be included.

The purpose of this Implementation worksheet tab is to evaluate the total cost of implementation, so the totals of this section and not the units are most critical. The columns have been changed to reflect Units, but the Unit Type used should be specified to understand the Unit Rate used for comparison purposes. Per Question 23, there is overlap between the Tables and cell F19 is captured in cell E21 and is included in Line Total cell E35.

The System Total on Line 8 of the Cost Calcs Tab should be linked to cell Q15 in the Additional Products and Services worksheet and the Cost Worksheet has been changed to reflect that. Per question 25, The year 2020 Pricing should be included.

3. Revised Attachment G Litigation and Default Form:

The expectation is to detail customer and/or Supplier litigation, contract breaches and events of default and it should include but not be limited to litigation, contract breaches and events of default that you initiated.



4. Revised Attachment O Potential Equipment Distribution document:

The total number of central scanning devices the state wishes for suppliers to include in submitted proposals is 165.

5. Attachment W County Delivery Points and Email Contacts:

Each Supplier is to provide a plan with enough detail to allow evaluators to be in a position to rate whether or not the supplier has the ability and logistical support to meet the delivery timelines outlined in the eRFP. To aid in Supplier's ability to outline said plan the likely delivery addresses are listed as Attachment W. (Attachment W is subject to change).

6. Naming Convention for documents uploaded for Mandatory and Mandatory Scored Questions: Please follow the below example:

1-1 Org Structure_(Supplier name or initials)

If there are multiple sections: File sizes are limited to 50 megabytes

18-2 System Map_EMS_(Supplier name or initials)

18-2 System Map_EPDMS_(Supplier name or initials)

***Remember that the File name can only be 50 characters or less

7. Documents included with this addendum:

Responses to questions submitted

Pre-Bid Conference Transcript



Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Election Systems & Software, LLC

Supplier's Name

Signature

Richard J. Jablonski, Vice President, Finance

Printed Name and Title



RFX Addendum Form

RFX Number: 47800-SOS0000037	RFX Title: Statewide Voting System
Requesting State Entity: Secretary of State	
Issuing Officer: Verneicher Favors	RFX Initially Posted to Internet: See GPR
eMail Address: vfavorites@sos.ga.gov	Telephone: (404) 656-0998
Addendum Number: 5	Date: 04/18/2019

The attached information, provided by the issuing State Entity, is made a part of this RFX. The purpose of this addendum is to revise the RFX as follows based on questions submitted:

Can the State please clarify the length of time over which requested performance bond at 100% of the Contract Award is intended to be in effect? In addition, to confirm, the face amount of the bond should be 100% of the implementation cost of the Contract?	The awarded Supplier shall be required to furnish a performance bond or an irrevocable letter of credit to the State Entity for the faithful performance of the contract in an amount equal to 100% of the total cost of the contract through the final certification of all elections held in the 2020 election cycle.
Please confirm that for required Performance Bond/Letter of Credit, coverage will be released proportionally with the fulfillment of contract obligations.	Response same as above.

1. Revised Attachment A eRFP document:

Section 3.2 Bonds and/or Letter of Credit

Performance Bond/Letter of Credit

The awarded Supplier(s) shall be required to furnish a performance bond or an irrevocable letter of credit to the State Entity for the faithful performance of the contract in an amount equal to 100% of the total cost of the contract through the final certification of all elections held in the 2020 election cycle. The bond shall be issued by a Corporate Surety authorized to do business with the State of Georgia. The performance bond/letter of credit must be submitted to the State Entity within ten (10) calendar days of the date the contract is awarded, but in any event, prior to the beginning of any contract performance by the awarded Supplier.



Note: In the event of a conflict between previously released information and the information contained herein, the latter shall control.

A signed acknowledgment of this addendum (this page) should be attached to your RFX response.

Election Systems & Software, LLC

Supplier's Name

Signature

Richard J. Jablonski, Vice President, Finance

Printed Name and Title

ATTACHMENT C – BACKGROUND AND SCOPE OF WORK

SCOPE OF WORK

OVERALL AREAS OF CONTENT TO EMPHASIZE IN RESPONSES

The more specifics and information each Supplier provides will better enable the State Entity's evaluation team to carry out its scoring and analysis. It is important to understand the overall intent of each section of the eRFP to ensure responses comply with the State Entity's requirements and show the overall experience that each Supplier can deliver.

A. SOLUTION REQUIREMENTS

1. The proposed SVS must have the functionality to support all 159 counties that will use the same equipment, software, and processes for creating, collecting, and tabulating votes. At a minimum, the proposed solution must be able to collect the following inputs and produce the following outputs:

Inputs

Contests to be voted on

Candidates or questions for each contest

District combos (define district-specific races for each specific voter)

Eligible voters

Outputs

Ballots

Election results

Voter participation and turnout

ES&S RESPONSE

ES&S agrees and will comply. We are proposing the same equipment, software and process for creating, collecting and tabulating votes for all 159 counties.

2. All other requirements to produce, maintain, and manage the SVS are included in the overall requirements of the eRFP. These include but are not limited to:

ADA accessibility

Application for creating ballots

Application for creating poll book datasets
Ballot Marking Devices (“BMDs”) - ballot display and printing solutions
Electronic Poll Books (“EPolls”)
Secure polling place ballot storage solution
Ballot counting solution
Application for result consolidation
Equipment for moving and storage of voting equipment and poll books
Training
User manuals and documentation

ES&S RESPONSE

ES&S agrees and will comply. The proposed statewide voting system will include all above items.

3. In-person (absentee in-person and Election Day) voting will be conducted solely with Ballot Marking Devices to mark ballots. Ballots marked using BMDs will be scanned and deposited into a secure ballot box. Provisional ballots will be available as required by law. To meet this requirement, the Supplier must deliver, during the first quarter of 2020, a minimum of:

Election Management System(s) (“EMS”) needed for operation at the state level and 159 counties
Electronic Poll Book Data Management System(s) (“EPDMS”) needed for operation at the state level and 159 counties
30,050 Ballot Marking Devices (“BMDs”)
8,000 Electronic Poll Books (“EPolls”)
3,665 Total Scanners (consisting of 3,500 Polling Place Scanners (“PPS”) and 165 Central Scanning Devices (“CSD”))
All related hardware

ES&S RESPONSE

ES&S agrees and will comply.

4. Suppliers must provide definitions of the application programming interfaces (“APIs”) between the proposed SVS and external systems. These systems include:

Voter Registration System (“eNet”)
Election Management System (“EMS”)
Election Night Reporting (“ENR”)

ES&S RESPONSE

All software proposed by ES&S, including Electionware and Pollware, is installed on a secure, closed system. All interfaces from the proposed SVS to any external system would be through the use of export

and import files. ES&S has extensive experience in partnering with states to support data conversion from Voter Registration software, for use with both the ballot programming as well as setup of the electronic pollbooks.

Electionware, used to configure and program the tabulation equipment, provides a very robust electronic data import, including translations as well as various information related to precincts, parties, contests, candidates, polls, districts and district relations. Electionware supports common formats such as tab, pipe, semicolon, and comma delimited text files. Electionware also provides exports of data in XLSX and CSV formats in the robust Table View feature. This powerful option allows the user to dictate which fields they desire to export, creating custom reports for proofing purposes, as well as, election results exports in ASCII, HTML, XML and custom xls exports.

Pollware, used to convert Voter Registration data into electronic pollbook files, also supports common formats such as tab, pipe, semicolon, and comma delimited text files. Data from Pollware, such as post-election reports and voter history files, are exported in XLSX, CSV and PDF formats. Users are able to determine which fields they import or export within Pollware, allowing for only relevant and necessary voter information to be displayed on the pollbook. ES&S will work with the State of Georgia to ensure all post-election files from Pollware are formatted correctly for import back into eNet to quickly and easily update voter data.

5. The interface should provide a system-to-system interface that does not require data manipulation or conversion by staff. Suppliers must define all data transfers that require secure storage media to bridge air-gap environments between eNet and the proposed SVS. Suppliers must also define data transfer processes for the following:

Inputs

Contests to be voted on

Candidates or questions for each contest

District Combos (define district-specific races for each specific voter)

Eligible Voters

Outputs

Ballots

Poll lists

Election results

Voter participation and turnout

ES&S RESPONSE

Both Electionware and Pollware software is installed on a secure, closed system. All system-to-system interface inputs are accomplished with the use of import files such as delimited text files, via secure storage media.

All election data outputs created from Electionware, as well as election results from the tabulation equipment, are encrypted and digitally signed on ES&S federally-certified, single-level cell, or SLC, grade USB flash drives. These SLC-grade USB flash drives, produced by Delkin, a US-based manufacturer, are one of the most reliable flash memory devices available on the market. By using only one restricted type of USB flash drive, we mitigate the threat of introducing malicious software into our tabulation equipment and our customers' systems.

ES&S identified memory devices as a potential security issue years ago and, because of this, only uses memory devices from Delkin Devices, which are manufactured within the U.S., and include unique hardware identified specifically for ES&S tabulators. Delkin provides memory devices for many U.S. government agencies as well as the U.S. military.

The generation of electronic pollbook files, which includes eligible voter and ballot style assignment data, is accomplished using Pollware software. Voter data files from eNet are transferred into Pollware using a removable memory device. Users are able to quickly and easily select their configuration options and generate electronic pollbook files, without manipulation or manual configuration of the initial input files.

6. Suppliers must identify all security measures utilized to secure data entering and leaving the proposed SVS. Suppliers must identify all security measures used to protect data between the proposed SVS applications in the air-gapped environment (EMS and EPDMS) and SVS applications outside of the air-gapped environment (EPolls, BMDs).

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

A. STATE CERTIFICATION AND ACCEPTANCE TESTING

The proposed SVS must pass GASOS certification and acceptance testing. Acceptance testing is a state-executed examination of each component of the SVS before the component can be distributed by the Supplier to any local jurisdiction. If a component fails acceptance testing, the component cannot be forwarded to its assigned jurisdiction. The failed component is returned to the Supplier along with information outlining the reason for failure.

If a component passes acceptance testing, the component can then be delivered to the assigned jurisdiction with its testing documentation.

ES&S RESPONSE

ES&S agrees and will comply.

B. STAGING AND DELIVERY REQUIREMENTS

1. The Supplier must secure and provide a distribution facility (or facilities) in the state of Georgia to complete any final assembly and testing of SVS components. The facility (or facilities) must be secure and accessible by GASOS personnel for acceptance testing of all units prior to distribution to the counties. The Supplier must also propose staffing in terms of full time equivalents (FTEs) and their available resources for assembly, testing, and distribution efforts given the compressed delivery schedules required for this proposal.

2. The Supplier should also propose and describe their plan to distribute equipment to the counties as part of their overall roll-out plan. The Supplier must design and describe the optimal plan of distribution, whether from one centralized distribution center or multiple regional distribution centers to cover delivery to all 159 counties and their secured facilities.

ES&S RESPONSE

ES&S agrees and will comply.

ES&S will secure a warehouse facility in the Atlanta area to serve as the initial delivery and distribution point for all hardware. ES&S will staff this facility with the appropriate and necessary field service technicians and logistics handlers based on each phase of the project.

For staffing and distribution details, please see the **Appendix A - Project Management Statement of Work** included following this section.

C. COMPANY BACKGROUND AND FINANCIAL CAPABILITY

Suppliers must demonstrate stability and experience delivering similar projects to other customers by providing: case studies, references, company history, overall company resources, subcontractor or joint venture partner resources, previous experience implementing the proposed or similar solution with such subcontractor or joint venture partner, company organizational structure including number of employees/organizational chart, and the overall ability to execute this project. It is important to show company stability, sales levels, the necessary financial resources, and an overall ability to finance delivery, installation, buildout, implementation, support, maintenance, and all other requirements of the eRFP.

ES&S RESPONSE

In the southern region of the United States alone, ES&S has successfully supported statewide voting systems in Arkansas, Mississippi, Alabama, Georgia, West Virginia, North Carolina and South Carolina for nearly 20 years. For over a decade, ES&S has successfully delivered support services such as onsite testing support, and Election Day Support to over 65 counties and municipalities throughout Georgia. Additionally, we support ballot on demand and provide ballot printing services for over 100 jurisdictions in the state. Our ability to successfully support elections in Georgia is proven.

ES&S places a high value on its experience in vote tabulation system installations and support. We are the most experienced voting system provider in the United States. No other vendor has more election experience, more voting devices installed, or more support personnel in the field. ES&S has significant experience with similar projects to the proposed solution. For more than 40 years, ES&S has deployed its solutions to the satisfaction of customers throughout the country.

From small, single-county deployments, to large-scale statewide implementations, ES&S has helped our customers advance polling place procedures, innovation, and improve the voting experience for our customers. In doing so, ES&S has gained valuable knowledge and has compiled a skilled and experienced resource pool capable of applying their past experiences to the unique aspects of elections.

ES&S is the only company in the voting industry that can provide the full range of voting system hardware, software, and election office support services to meet the extensive needs of the diverse customer base. Our end-to-end product solutions include voter registration, precinct and central count tabulation hardware and software, accessible voting ballot marking devices, electronic pollbooks, voter education/outreach, ballot layout and printing, pollbook data conversion software and services, election media programming, early voting and ballot-on-demand print services, initial and recurring product training, equipment preventative maintenance, voting supplies absentee mail ballots, project management services, and Election Day support and results reporting.

ES&S' corporate headquarters is in Omaha, Nebraska. The company employs more than 500 election professionals in eight (8) operating locations.

ES&S was founded in 1979 as American Information Services, Inc. ("AIS"). In 1997, AIS acquired Business Records Corporation and changed its name to Election Systems & Software, Inc. In 2009, ES&S acquired Premier Election Solutions, Inc., and in 2011, ES&S acquired Advanced Ballot Solutions, Inc.

ES&S has been fortunate to be able to grow its business both organically and through the foregoing strategic acquisitions.

Today, not only do we work with many of the same customers we've served for more than four decades, but our business also has grown to serve 42 states and includes more than 95,900 supported precincts. From our humble beginnings supporting a handful of election administrators and voters in 1979, today nearly 100 million registered voters tabulate with ES&S. ES&S associates have supported more than 100,000 elections during the past decade alone.

We have managed projects of all sizes, from large-scale, complex installations such as statewide implementations, to the five boroughs that make up New York City and its 4.6 million voters, to single-county projects.

With the dedicated and talented individuals who work for ES&S, as well as the most diverse product offerings and services in the industry, ES&S is well-positioned to continue to serve its customers for many years to come.

Please see **0-7 - References** for our references.

Please see **Appendix B - Case Studies** included following this section.

D. HARDWARE

Suppliers must provide specifications for equipment, equipment volume capacity (including all hardware required with the Supplier's system), any white papers, any environmental performance white papers, geographical locations where hardware is in use (including population numbers, density numbers, and customer experiences using the equipment). Provide overall system configurations and required equipment for each voting system or polling locations in exhibit form as well as a graphical description. Suppliers must also provide documented capability in all areas to ensure the ability to execute on this project deliverable.

ES&S RESPONSE

Product	Storage Dimensions	Equipment Volume Capacity	Dimensions
DS200, v. 2.17.0.0, rev. 1.2, 1.3, 1.2.11	14"W x 5.5" H x 16" D	Election Media Capacity: 512MB standard, 16GB maximum USB flash drive. Ballot Styles: 15,000	14"W x 13"H x 16" D (Operation)
DS200 Plastic Ballot Box, rev. 1.2, 1.3, 1.4, 1.5	24"W x 35.5"H x 8"D	Election Media Capacity: 1GB standard, 8GB maximum. The number of ballot records within capacity depends on the size of the election.	24"W x 35.5"H x 8"D

		<p>Throughput: The DS200 nominal processing speed (scan, image, tabulate) in ballots per minute (bpm): 11 inches - 12 bpm; 14 inches - 11 bpm; 17 inches - 10.5 bpm; 19 inches - 10 bpm.</p> <p>Ballot bin capacity (ExpressVote cards): 5,000 ballots (standard compartment); 2,500 ballots (removable tote bin), 100 ballots (auxiliary bin)</p>	
DS450, v. 3.1.0.0, rev. 1.0	45"W x 21"H x 20"D	<p>Election Media Capacity: 1TB HDD holds Approx. 5 million ballot images and related data.</p> <p>Ballot Styles: 15,000</p> <p>Throughput: The DS450 scanner and tabulator unit's nominal processing speed for folded ballots in ballots per minute (bpm): 11 inches - 92 bpm; 14 inches - 75 bpm; 17 inches - 63 bpm; 19 inches - 50 bpm.</p> <p>Tray/Bin Capacity: 480 standard sized ballots. Output Bin: 480 standard sized ballots. Outstack Bins: 150 standard size ballots.</p>	45"W x 32"H x 20"D
DS850, v. 3.1.0.0, rev. 1.0	41"W x 37"H x 18"D	<p>Election Media Capacity: 1TB HDD holds Approx. 5 million ballot images and related data.</p> <p>Ballot Styles: 15,000</p> <p>Throughput: The DS850 nominal processing speed for non-folded ballots in ballots per minute (bpm): 11 inches - 368 bpm; 14 inches - 300 bpm; 17 inches - 250 bpm; 19 inches - 200 bpm.</p> <p>Tray/Bin Capacity: Input Tray: 480 standard sized ballots. Output Bin: 480 standard sized ballots. Outstack Bins: 150 standard size ballots.</p>	41"W x 37"H x 18"D
ExpressVote, v. 2.4.0.0, rev. 2.1, 2.1.2.0	20"W x 17"H x 5"D	<p>Election Media Capacity: 512MB standard, 16GB maximum USB flash drive.</p> <p>Ballot Styles: 15,000</p>	20"W x 16"H x 13"D (Operation)
ExpressPoll	19" x 14.5" x 7.5"	<p>Device Storage: EMMC drive: 64GB, 128GB, SSD; 4GB RAM</p>	11.6" x 12.2" x 10" (Stand)

		Voter List Capacity: 8M RV w/electronic signature capture; 10M RV without electronic signature capture.	9.6" x 6.9" x .33" (Tablet)
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For additional information, please see our Appendix A - **Statement of Work and Project Plan as Appendix A, Appendix B - Case Studies, I-3 Implementations** and the **System Overview in I-1 TDP**.

E. HARDWARE DEVELOPMENT

Each Supplier should describe its inventory on hand, inventory storage capacity, manufacturing capacity and ability to finance and deliver the state's necessary equipment levels. Suppliers should also include ability to deliver on future equipment enhancements, decommission current machines, and replace of hardware, excess inventory, and any specific advantages the Supplier may possess in delivering on this specific eRFP. For this and all key deliverables, Suppliers should include named resources and CVs for all key personnel including subcontractor or joint venture partner resources and previous experience implementing the proposed or similar solution with such subcontractor or joint venture partner.

ES&S RESPONSE

ES&S started developing a plan for the surge in equipment demand more than 3 years ago. We've increased production plant capacity, which includes facilities, production equipment, supply chain managers, production line supervisors and production assemblers.

We dedicate a tremendous amount of time closely managing a sales opportunity pipeline spanning a 24-month rolling time horizon. We monitor and track equipment type, configuration, quantities, timing of delivery and first use. The aggregate sales opportunity demand potential data allows us to make component purchasing decisions up to 16 months before a customer contract is even executed. We first release long lead-time parts, and then followed by finished goods plant production scheduling.

We are in constant communication with Suppliers in our global supply chain. Every supplier that provides components for our purpose-build election equipment is thoroughly vetted before approved. We conduct site visit and audits throughout the year. In the unlikely event we have a poor performing supplier they get replaced. We've fostered and strengthen relationships over the last 30 plus years. Five of our people managing this work have over 100 years combined experience.

We use the "*Speed of Trust*" communication methodology with our supplier network. When we have trust, we get truth, and with truth we accomplish speed. This allows ES&S to be confident when answering bid proposals for specific delivery commitments.

All key personnel of the project team and their resumes are included in **I-1 Org Structure**.

F. SOFTWARE DEVELOPMENT

The Supplier should describe its company resources and financial commitment as a percentage of revenue, including overall development models, programming language and specifics, database modeling, lifecycle management, testing resources, and release management plan via white papers, models, and any other documentation to demonstrate domain expertise. For this and all key deliverables, include named resources and CVs for all key personnel including subcontractor or joint venture partner resources.

ES&S RESPONSE

ES&S uses a modified Agile scrum methodology for planning and executing development projects and lifecycle management. The ES&S voting system is implemented using the C, C++, C#, Java, VB and VB.net languages.

As a percentage of revenue, ES&S has invested, on average, 19% of revenue on research and development.

The attached System Development Program describes how the development lifecycle is managed and the attached Coding Standards document describes the detailed standards used in our software development environment. Please see both documents included following this section as **Appendix C**.

All key personnel of the project team and their resumes are included in **I-I Org Structure**.

G. CONSUMABLES/PERIPHERALS

It is important for the State Entity to understand the costs associated with peripherals and consumables for the proposed SVS and eventual purchase by local jurisdictions. Details should be provided for both equipment required peripherals and consumables with minimum unit pricing in a Master Services Level Agreement (MSLA); also be able to accommodate local jurisdiction aggregated purchases per Georgia law.

ES&S RESPONSE

Please see **Attachment F – Cost Workbook** for all costs associated with peripherals and consumables.

H. SECURITY

The proposed SVS must ensure security and ballot secrecy for all forms of voting (absentee by mail, absentee in-person, and in-person on Election Day). Additionally, the proposed SVS must integrate with the State Entity's current Voter Registration System ("eNet") (Vendor: PCC Technology Group) and integrate with the

State Entity's current Election Night Reporting system ("ENR") (Vendor: ScytI). In addition to these overall requirements, the proposed SVS must have the following core functions:

Creation of the election ballot styles

A method for distribution of all ballot styles

Creation of electronic poll book datasets for the election

A method for distributing poll book datasets

A method for access and use of poll books at polling locations

Methods for presenting correct ballot to voter

A method for documenting the ballot results

A method for provisional balloting

A method for counting ballots

A method for tabulating all results

Produce state, county, precinct, district, precinct combo, and municipal results

Security for protecting data integrity

A solution for maintaining chain of custody of ballots throughout the election process

ES&S RESPONSE

ES&S agrees and will comply. The proposed statewide voting system includes the above core functions.

SECURITY AND BALLOT SECRECY

ES&S is committed to the ideal that the voter's privacy and anonymity are of the utmost importance. Both are stringently preserved throughout the voting process.

All ES&S voting equipment provides for voting in secrecy. In fact, most voters who previously received assistance as authorized by UCA 20A-3-108 will be able to vote in secrecy and independently with use of our award-winning device for people with disabilities - the ExpressVote Universal Voting System.

The ExpressVote allows voters who are blind, low-vision, or who are unable to read or write the English language to privately listen to instructions and selections at a volume, tone, and speed comfortable to them in the language of their choice.

The ExpressVote can serve every eligible voter, including those with special needs. The feature-rich system was created for people with or without visual impairments, hearing issues, or need for physical accommodations. As a fully compliant ADA (Americans with Disabilities Act) voting solution, the ExpressVote enables each voter to cast his or her ballot autonomously. Voters can verify the printed paper record using the same accessible devices used by the voter to vote the ballot.

Voters cast their votes unassisted, thereby maintaining their privacy and anonymity. All accessible features are available to the voter simultaneously at any time throughout the voting process and does not require any poll worker activation. The voter's ability to turn off the touchscreen display and the use of privacy screens lend additional privacy.

Functionality includes:

- ✔ Multiple user interfaces including touchscreen, Braille-embossed keypad, sip-and-puff tube, and foot pedal or other two-switch device
- ✔ Audio voting session via text-to-speech or .wav files with volume control and the same multi-language options available to sighted voters
- ✔ Voter selects speed, tone, and volume
- ✔ High-visibility on-screen ballots
- ✔ Voter-selected font size and contrast settings
- ✔ The ability to blacken the screen for additional privacy when using the audio ballot only.

When the ballot is inserted in to the DS200, no preferences are displayed on the screen, further protecting the voter selections.

When the Electionware programmer configures the election definition to save ballot images, the system will save an electronic copy of the ballot image and cast vote record onto the USB flash drive when the vote is cast. To ensure that the voter's identity cannot be tied to a ballot image, the system randomizes the ballot image file and does not place a date/time stamp on the file. As a result, there is no logical way to associate a voter with a saved ballot image or cast vote record.

INTEGRATION

Our proposed SVS will integrate with the State Entity's current Voter Registration System ("eNet") and the State Entity's current Election Night Reporting system ("ENR").

ES&S has extensive experience in partnering with states to support data conversion from Voter Registration software. ES&S is providing our Pollware Poll Management System.

Additionally, Electionware provides a very robust electronic data import for tabulation information, including translations and various information such as precincts, parties, contests, candidates, polls, districts and district relations. By utilizing the powerful importing feature in the Capture module, Department programming staff will not be required to perform data entry. This data import flows smoothly with ballot layout templates, as well as overall election templates to ensure there is consistency within multiple precincts during the election setup phase.

Suppliers must provide details as to the security of your company and equipment including supply chain and ownership. This security overview should include specific software and cyber defenses in design, manufacturing, functionality, and delivery of all components of the offering. This should also include physical

security capabilities on each component of the offering as well as tamper-evident properties of all aspects of the offering.

ES&S RESPONSE

OVERVIEW

Election Systems & Software (ES&S) is a proud provider of voting system technology across the United States. We have been in the business of providing voting systems, software and services to local and state jurisdictions for more than 40 years. ES&S places significant importance on the security and use of election equipment, software, and customer data. Below we answer the most common questions we receive from state and local officials, followed by a description of the many security measures we take to ensure that the products and services we build for our customers' use are designed and delivered with the highest security standards in mind.

OWNERSHIP

ES&S is US-based and US-owned. ES&S is owned by Government Systems, Software, & Services, Inc.

SUPPLY CHAIN

Our purpose-built tabulation machines which are produced in ISO-9001 manufacturing facilities are made of many commercially available components configured to a custom design for a specific use. The entire voting system is managed by a secure engineering change order control process. This includes all component suppliers. Changes to the voting system follow a formal closed-loop process and must be internally and externally reviewed, verified, tested and approved before they can be incorporated. Every unit is individually serialized for complete traceability.

ES&S also conducts thorough security reviews of our supply chain including supply chain risk assessments and on-site visits of our suppliers to ensure that every component is trusted, tested and free of malware. All tabulation software is produced and compiled exclusively in the USA. All components of the hardware go through a formal incoming inspection and testing process. Final hardware configuration control and quality assurance is performed at our headquarters in Omaha, Nebraska.

As standard practice, each hardware and software release undergo thousands of hours of performance testing and millions of test ballots along with extensive security testing after which ES&S provides a complete set of software components to the voting systems testing labs (VSTL) for review.

In addition, ES&S is participating in discussions with the Department of Homeland Security's National Risk Management Center (NRMC), the National Institute of Technology (NIST) and the Center for Internet Security (CIS) regarding the development of guidelines and best practices for ensure that we stay on top of managing new or emerging risks associated with Supply Chain components.

ELECTION MANAGEMENT SYSTEM

In addition to conformance to the federal Voluntary Voting System Guidelines (VVSG) for integrity, availability, and security of data, the ES&S system employs security in depth, meaning multiple layers of complementing measures. Security measures include integrated warning and alerts, user roles, data

encryption, digital signatures, and physical security. No voter information is stored to the voting system software, ensuring voter privacy and security.

Electionware incorporates the very latest in election security, including heightened audit controls and change management processes that are built in to make sure your election data is safe and secure. Electionware requires users to enter a valid username and password prior to gaining access to the application. The passwords are stored as MD5 hashes so that they are unreadable. The system requires that Electionware passwords be strong.

The system administrator creates unique user IDs for each user allowed to log onto election management system (EMS) workstations. Election personnel that are allowed access to the shared folder on the server receive a second unique shared user ID and password. Users are assigned to roles, including: Election administrators, election personnel responsible for coding the elections, election personnel responsible for election results processing, election personnel allowed to access the shared folder on the server, and election administrators allowed to shut down the system.

Depending on a user's access rights, Electionware limits selections. Unavailable selections do not appear in the application interface. Electionware saves a record of all user actions with a username to the system audit log. System security for Electionware limits casual access to system files, but security also depends on sound practices at the election office. Officials should implement a strong physical and procedural security plan that limits access to Electionware to authorized personnel only.

A complete security hardening process is provided for the computer platform of the EMS as a security measure. This process hardens the basic input/output system (BIOS), the operating system, and the User Access Controls so data cannot be modified outside the intended flow of the application or by a malicious hacker. Additionally, unauthorized applications cannot be executed on the EMS workstations. Electionware does not offer any data entry feature that can be used to alter programming.

Furthermore, the EMS system is closed (air-gapped) and therefore has no connection to the internet.

ELECTIONWARE DATABASE SERVER

Data directories on the Electionware database server are protected from regular users. The database server accesses data through a service account, protecting data files from direct access.

DATA FROM EMS

Electionware creates access codes and SFTP (Secure File Transfer Protocol) user passwords with an election-specific encryption using Advanced Encryption Standards (AES) methodology. Both the access codes and SFTP passwords are transmitted as unreadable SHA-256 hashes for protection. The election definition is protected both with public/private key digital signing and encryption to U.S. Federal Information Processing Standards (FIPS) standards.

DATA TO EMS

ES&S not only digitally signs results data from the tabulators to the EMS as required by the Election Assistance Commission (EAC) to ensure no tampering has occurred, but we also go a step further. ES&S

encrypts the results data to FIPS 140-2 standards. Before results are read into the reporting software, they are signature-verified to ensure authenticity and then decrypted for results accumulation.

VOTING MACHINE SECURITY

Security access codes. Each precinct voting machine requires the user to enter a role-based security access code unique to each election that the Electionware EMS creates. These security access codes limit or detect access to critical system components. They guard against loss of system integrity, availability, confidentiality, and accountability.

The Electionware election management system (EMS) provides the ability to program new access codes for each election. Furthermore, there are additional options for choosing whether access code challenges are required at certain steps. This enables counties to choose whether to control access using physical controls such as locks and seals, access codes in the user interface, or both.

Controlled and evaluated code execution. Voting machine functions are only executable in the manner and order intended, and only under the intended conditions. The machines continuously evaluate whether the hardware and firmware are executing only in the authorized fashion. Any deviations from this execution due to tampering or system issues are immediately logged and reported to the user via the touch-screen interface and the machine audit log.

Secure hardware design. The hardware is designed to protect against tampering during system repair or interventions in system operations. Security safeguards cannot be bypassed or deactivated during system installation or operation. System access during equipment preparation, testing, and during use by voters is limited by physical locks and access codes. Tamper-evident seals can be added for further protection.

Auditing. The election district tabulator's audit log report lists all events that can occur on the system (errors, alarm conditions, ballot handling exceptions, and user-initiated functions) with a date and time stamp. The log reports from all internal components that can produce an audit log entry, including the power management board, scanner hardware board, and election processing firmware. The election district tabulator audit logs also can be viewed and printed from the election management system (EMS) database.

The accessible ballot marking device records errors and major events with the date and time each occurred based on the unit's real-time clock. Audit logs are constantly updated in the system background and saved to the inserted ES&S USB flash drive in a circular buffer. Each log entry is numbered and includes event details to facilitate recognition, segregation, and retention.

All events and errors are recorded and tagged with the date and time in the machine audit log. Machine audit logs can be viewed or printed for immediate identification and resolution of error conditions. Logs can be transferred via USB memory devices to secondary secured central storage not within the system whose logs are being recorded. Audit logs are digitally signed when they are exported. Results data from the tabulators is both digitally signed and encrypted.

Flash drives with custom VID/PID. The USB flash drives used to transport election information to the voting machines and to transport results back to the EMS contain a custom VID/PID embedded by the manufacturer for security purposes.

Digital signing and encryption. ES&S software digitally signs every cast vote record and its corresponding image files when they are created. The EMS validates the signatures when reading the vote data to ensure no tampering has occurred.

Additionally, ES&S application software exceeds Election Assistance Commission (EAC) VVSG (Voluntary Voting System Guidelines) requirements by encrypting all vote data sent from the tabulators to the election management system (EMS) computer that hosts the software that aggregates results. Data is encrypted using strong Federal Information Processing Systems (FIPS)-compliant Advanced Encryption Standard (AES) encryption. The results remain encrypted until imported into the EMS for results accumulation.

ABSENTEE VOTING SYSTEM SECURITY

Data from the EMS and going back to the EMS is protected with the same type of digital signing and encryption used for the voting machines.

The DS450/DS850 central tabulator used to count absentee ballots can require an access code on startup and has varying levels of access code challenges depending on the features being accessed. This includes the administrative lockout for results-related features.

The DS450/DS850 keeps a detailed, time-and-date stamped audit log with access code attempts and all user actions, whether successful or failed. Audit logs can be printed in real time on the audit log printer or manually printed from the unit's menus. Audit logs are digitally signed when they are exported to a USB memory device for review on the EMS.

All ports are behind lockable, sealable clear plastic doors to control access and allow election officials to easily detect unauthorized access.

Cast Vote Records (CVRs) can be written to election media for backup purposes without aggregating vote data for reporting purposes. This prevents the data from being read into the EMS system for reporting before it should be. The aggregation of data is access-code controlled and can be locked out until re-enabled by an administrator. The EMS software also can be password-controlled to limit access to results generation and reporting functions.

The USB flash drive can store images of each ballot cast. To ensure security and protect voter anonymity, the ballot images are stored with random names assigned to each ballot image file.

ELECTRONIC POLLBOOK

A user ID and password are required to activate the ExpressPoll tablet. If desired, two passwords from separate poll workers can be required for system log-in. A separate password is required to access supervisor functions. Every log-on attempt generates an audit log event.

All elector data is encrypted to meet AES-256 encryption standards, one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.

MEDIA RESTORE

The Media Restore module is used to prepare ES&S-certified USB media flash drives for use with Electionware by securely clearing all data and then restoring to the FAT32 format.

I. IMPLEMENTATION PLAN

For the purposes of this eRFP, the Supplier's preliminary plan and estimates for delivery are to be in a phased roll-out as a pilot project and then a full roll-out to all counties.

Phase 1 will be the full inventory distribution and necessary training of up to ten (10) counties selected by GASOS to participate in a pilot project to be executed in November 2019. The pilot equipment will be used in any associated November 2019 election scheduled for the selected counties.

Phase 2 will be broken into two parts. Phase 2 – Part 1 will be distributing a minimum of five (5) BMD, two (2) PPS, and one (1) EMS computer to each county (159). These components will facilitate election official and poll worker training activities. Phase 2 – Part 2 will be the full distribution of all equipment to the counties including training. Phase 2 – Parts 1 and 2 will begin after the distribution of equipment to the counties participating in the scheduled pilot project in November 2019.

Completion of Phase 2 – Part 1 will be completed by end of the fourth quarter of 2019 (December 31, 2019). Completion of Phase 2 – Part 2 will be completed prior to the end of the first quarter of 2020 (March 31, 2020).

Suppliers should include detailed plans to demonstrate domain and project management expertise for the delivery and execution of the proposed SVS.

It is important that each Supplier's response to the eRFP display its company resources, project plans, implementation strategy including physical logistics and the overall ability to provide the necessary support to deliver this project to all 159 counties. Detailed project plans and project approaches for this and similar projects are important to the assessment. For this and all key deliverables, Suppliers should include named resources and CVs for all key personnel including subcontractor or joint venture partner resources.

ES&S RESPONSE

ES&S is the most experienced election vendor in the industry and as such has implemented the most statewide and large jurisdiction voting systems in the country. ES&S is proposing a regional team approach to supporting the State and the 159 Counties in the State from delivery to first election use. Our PMP credentialed Project Manager, Holly Richardson, will lead the project while three (3) experienced Account Managers will provide leadership and guidance to our regional support teams on the ground throughout the State.

Please review our **Statement of Work and Project Plan** for detailed plans on the scope of work, deliverables and timelines based on the State of Georgia's requirements.

All key personnel of the project team and their resumes are included in **I-I Org Structure**.

J. SUPPORT

Suppliers must provide details for any additional support the Supplier will provide to supplement GASOS resources and counties, including replacement units and system parts, ballot building capability, call center resources, ticketing systems, Service Level Agreements (SLA), and any other core competencies the Supplier can offer to ensure project success with named resources and CVs for all key personnel.

ES&S RESPONSE

REPLACEMENT UNITS/SYSTEM PARTS

ES&S designs and manufactures its voting equipment for a minimum lifecycle of 10-15 years. This is exemplified by the fact that existing ES&S voting equipment product lines far exceed the normal lifecycle of 10 years.

ES&S fully supports the tabulators we build through tried and tested sustainability processes. To ensure the sustainability of our products throughout its lifecycle and beyond, ES&S engineers its voting system products with an eye on durability, ease of maintenance, and availability of parts and supplies. The ES&S supply chain is the most extensive in the election industry.

Product sustainability and lead-time compression is the driving force to having a strong supply chain. We focus on choosing long-life industrial grade components and hardware to ensure we meet and exceed parts availability.

We have extensive bill of materials for all our product lines. We continually monitor our component inventory supply, customer demand, and supplier availability. ES&S involvement includes inventory management, hardware engineering, manufacturing, purchasing, and field services.

Our outside contacts include contract manufacturing partners, manufacturer representatives, manufacturers, and component suppliers. Constant monitoring and effective communication between all manufacturing partners is the main reason why we continue to enjoy success and why our customers are able to use their voting equipment far in excess of the expected lifecycle.

ES&S' sustaining engineering team will continue to monitor all aspects of our systems. As end of life (EOL) or component improvements become available, we will continue to make wise choices with our customers in mind, to ensure our fielded voting systems remain viable for new and existing customers.

ES&S ensures that certified repair and replacement parts are always readily available. ES&S stocks over \$800,000 of available repair inventory (spare parts and subassembly inventory) in our Omaha warehouse to support the product line in our proposal. Our commitment to maintaining high inventory levels is

supported through solid supply chain and inventory parts management systems. These include minimum buy commitments and lead time management policies.

Our field technicians carry more than \$100,000 in available repair inventory for the product line in our proposal. Our perpetual inventory system coupled with an ongoing supply chain assessment with our key manufacturers and suppliers provides our customers and field technicians with immediate access to our certified spare parts inventory. This is the primary reason that we suggest the State maintain an ES&S warranty service contract as maintenance of a service and support contract guarantees availability of service staff and a certified spare parts inventory. ES&S tracks parts usage to maintain our perpetual inventory of parts.

BALLOT BUILDING CAPABILITY

ES&S currently employs three dedicated and full-time ballot builders capable of coding for all federal, state, county, and municipal elections through June 30, 2021 and beyond. Our local ballot building team has an average of 17 years experience building ballots and supporting elections in Georgia. The same high-level of local service and support we currently provide the State can be carried forward without interruption.

CALL CENTER/TICKETING SYSTEM

HELP DESK

ES&S will staff and maintain a dedicated full-time employee in Georgia for Election Day. In addition to the local, dedicated support team available to the State, ES&S offers the following.

The ES&S Help Desk offers multiple support channels to assist customers with issues and concerns ranging from simple “how-to” questions to complex functional inquiries. Customers who purchase and maintain ES&S hardware maintenance and software license support services through ES&S agreements automatically receive on-call telephone support.

Your call to the Help Desk during our hours of operation will immediately be answered by an expert hardware or software technician who will answer your questions and/or begin resolution of your issue. ES&S uses remote support tools like WebEx to provide over-the-shoulder assistance when needed. We track all questions or concerns and their resolution in our ticket database and knowledge base to provide continuity of service.

ISSUE RESOLUTION

- ✓ During Election Day activities, our Help Desk is ready to help on its extended-hour schedule (for a 24-hour period beginning at 5 a.m. Eastern) to meet the various poll open and closing times for our customers across the United States. During any General Election, ES&S augments our technical support team to further ensure that your issue will receive an immediate response when you contact the Help Desk.

- ✓ During non-election periods, the Help Desk can be reached on weekdays between 8 a.m. to 8 p.m. Eastern Time. After hours, a representative will return your call as soon as possible, but no later than the next business day.

When a planned system maintenance event is scheduled on evenings, weekends, or holidays, ES&S recommends that the State notify their account manager, who can inform the Help Desk to expect potential service calls, ensuring the most rapid response possible.

TOLL-FREE PHONE SUPPORT

Our dedicated toll-free customer support telephone number is 877-ESS-VOTE (877-377-8683). The support line is open 24 hours a day, 7 days a week. Help Desk hardware and software technicians will immediately respond to your call during our business hours from 8 a.m. to 8 p.m. (Eastern Time), Monday through Friday. After hours or during weekend/holidays, the State can leave a message 24/7 and a representative will return your call as soon as possible, but no later than the next business day.

If time is of the essence, your account manager and regional sales manager are on call 24 x 7 x 365 and may be contacted on their mobile phones. These on-call individuals will provide the State with redundant sources to help you resolve any issue you may have during after-hours, weekends, and holidays.

EMAIL SUPPORT

Customers can communicate directly with specialized ES&S support and technical representatives.

SERVICE LEVEL AGREEMENTS

Service level support is available to the State during the period of initial warranty and subsequently to customers who subscribe to ES&S's hardware extended maintenance warranty and software license agreements.

In addition to the technical support services provided by our Help Desk, the State can always contact their designated Account Manager or Regional Sales Manager on their mobile phone for immediate service and support 24/7. These in-state, on-call individuals will provide the State redundant sources to help you resolve any issue you may have during after-hours, weekends, and holidays.

ES&S MAINTENANCE AND SUPPORT SERVICES SERVICE LEVEL AGREEMENT

Tier 2 Level of Support

ES&S Telephone: 1-877-377-8683 (1-877-ESS-VOTE)

Option 4 and then Option 1 for Hardware Support

Option 4 and then Option 2 for Software Support Email: software@essvote.com for Software Support; hardware@essvote.com for Hardware Support

When a customer calls the ES&S Help Desk during hours of operation, an ES&S hardware/software technician will immediately acknowledge the issue. The customer will not be required to hold on the line or contact a secondary group before successfully speaking with a technician.

Hours/days of operation: Monday - Friday, 8:00 a.m. to 8:00 p.m. EST

After-hours: Leave a message and call will be returned the next business day.

After-hours critical issues: on-call technician will be notified to return call as soon as possible

Hours of operation during scheduled elections: For a 24-hour period beginning at 5:00 a.m. EST on Election Day.

ES&S maintains information regarding all statewide election dates. In the event of a special election, or other significant date, the customer can notify ES&S of these dates and Tier 2 support will be staffed accordingly.

Tier 3 Level of Support

When a customer calls the ES&S Help Desk during hours of operation, an ES&S hardware/software technician will immediately acknowledge the issue. The customer will not be required to hold on the line or contact a secondary group before successfully speaking with a technician.

Issues that are unable to be resolved within Tier 2 Support are elevated internally to Tier 3 status.

The Tier 3 Support team includes product engineers, system administrators, and software developers. As needed, the Tier 2 technician will work with Tier 3 ES&S resources capable of addressing advanced requests, questions, or issues. These same resources will be responsible for the design, development, and deployment of system changes, including any updates and enhancements.

In addition, ES&S will work with the State to mutually agree upon certain service level requirements that will allow ES&S to timely resolve any issues, which may arise with ES&S' voting system while meeting the needs of the State.

ON-SITE SUPPORT

If desired by the State or counties, ES&S will provide one or more trained on-site representatives who are available to the customer the day immediately prior to the election, Election Day and one additional day following Election Day. Although needs vary by customer, depending upon the customer's needs and the customer's scheduling of support staff for an election, the ES&S support representatives may assist with election administration, procedural guidance, hardware and software operation, Election Day call center staffing, as roving troubleshooters during Election Day, and election night accumulation of results.

ES&S plans to establish a warehouse in the Atlanta area that will serve as a storage facility, parts depot and central location for training and any remedial maintenance necessary.

All key personnel of the project team and their resumes are included in **I-I Org Structure**.

K. TRAINING

Suppliers must provide details for the training support the Supplier will provide to supplement GASOS and county resources. Include call center resources, staff training, training materials, and any other core

competencies the Supplier would include in its eRFP response in order to ensure project success. For this and all key deliverables, include named resources and CVs for all key personnel including subcontractor resources.

ES&S RESPONSE

THE ES&S APPROACH TO ON-SITE TRAINING

Election Systems & Software understands that a successful transition to new election technology depends on more than executing a logistics plan. A key element to success is ensuring that the State of Georgia is empowered with the knowledge to administer the new system and carry out a trouble-free election. To make this transition successful, we emphasize on-site training as a critical component of our overall implementation plan. Our training goal is to ensure a strong level of comfort and competency for Georgia's election staff and poll workers. ES&S is committed to maintaining our flexible approach in tailoring the right mix of products, training, support and service to the State of Georgia.

TRAINING THE ES&S WAY

The ES&S curriculum is based on our decades of experience in implementing new voting systems. Our customized approach to training Georgia's election team anticipates the wide range of skills needed to carry out a successful election. Our courses are tailored to specific audiences and incorporate a high degree of hands-on instruction and simulations, increasing the relevancy of every minute Georgia election workers spend in the classroom.

ES&S TRAINERS: EXPERIENCE THAT MATTERS

ES&S has carefully selected our training staff to provide the very best training experience for Georgia's election staff. We require all personnel on our Operations Training team to be certified ES&S trainers. This begins with a minimum of two years of experience as an instructor and continues with customized product certification. Additionally, each of our training staff members has personally supported elections using ES&S voting equipment. Our trainers have first-hand knowledge of the challenges Georgia's election workers could face with your new equipment. We can anticipate staff concerns and appreciate the challenges of using a new voting system.

ES&S' TRAINING PLAN

Introducing new technology presents unique challenges. Training is our primary concern in implementing a new elections systems solution. ES&S measures the success of new equipment installations by the quantifiable way in which our clients can manage their unique election processes while using the ES&S system. Our comprehensive, classroom-based training program promotes a strong level of competency for all intended users through training modules developed to provide Georgia's election team with the skills to perform necessary operations.

ES&S CONTINUING EDUCATION & SUPPORT

The ES&S method aims at fully preparing election staff to ensure autonomy in election operations while using our equipment. We understand long-term needs may require a combination of continuing education

courses and/or on-site support. These continuing education and site support needs from our experienced training team can be coordinated and tailored to meet Georgia's unique requirements.

All key personnel of the project team and their resumes are included in **I-I Org Structure**.

L. EASE OF USE

Suppliers must provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback that give the Supplier specific advantages over other voting equipment solutions.

ES&S RESPONSE

Please see **Appendix B – Case Studies**.

APPENDIX A – STATEMENT OF WORK

APPENDIX B – CASES STUDIES

UTAH INCREASES VOTER CONFIDENCE

through verifiable ballots and better audits

In the early 2000s, election officials across the country purchased new voting systems thanks to the Help America Vote Act (HAVA). At that time, the State of Utah chose to use their HAVA grant dollars to purchase optical scanners and direct-recording electronic (DRE) voting machines.

Fast forward to over a decade later: vote by mail has become the norm for most counties across Utah. In fact, the majority of registered voters in the state automatically receive a ballot in the mail. While the machines were standing the test of time, the increased popularity of vote by mail was starting to put a lot of pressure on the decade-plus old system that was originally designed for in-precinct voting.

In addition to managing aging voting systems and changes in voting trends, election officials in Utah were facing higher expectations for security and reliability.

The expectation being all voting machines should have the ability to audit and verify that a voter's ballot was recorded and tabulated in accordance with the voter's intent.

In the fall of 2017, the State of Utah designated Election Systems & Software (ES&S) as the state's election management provider of choice. After their extensive assessment of five different election systems providers, the State's evaluation committee determined that ES&S would provide the best value to the State.

"Through a careful and thorough procurement process, the state of Utah has chosen ES&S to lead Utah into the next generation of voting equipment. ES&S offers a wide range of voting equipment options, and I'm confident their secure and innovative election solutions will fit the needs of each county," Utah State Lieutenant Governor, Spencer J. Cox said (October 2017)

Through their extensive assessments, the State Evaluation Committee determined:

- ES&S' Electionware election management system provides a more efficient and intuitive process for ballot layout and design, as well as import and export capabilities.
- ES&S has a tabulation solution for every Utah county, all of which reduce ballot processing time and provide an efficient process for adjudicating ballots.
- ES&S ExpressVote universal voting solution combines paper-based voting with touch-screen technology to meet the needs of voters with disabilities as well as provide a permanent paper record.
- ES&S's longevity, financial stability and reputation position it as the best option to support a roll-out of new equipment in multiple counties in Utah simultaneously, and provide support and maintenance plans at different levels of service and price points.

The Old Utah



Approximately 650
Direct-Recording Electronics
and Optical scanner units



Approximately 940
Direct-Recording Electronics
and Optical scanner units



Approximately 156
Direct-Recording Electronics
and Optical scanner units

ES&S SOLUTIONS

EASY EQUIPMENT SETUP

While nearly every registered voter in Utah receives a ballot by mail, registered voters may still vote in-person on or before Election Day. In Utah, accessible voting centers are available for voters with disabilities who need assistance completing their ballot and registered voters who prefer to cast their ballot in person during early voting and on Election Day.

Weber County Elections Director Ryan Cowley was impressed with the set-up process for their new ES&S equipment. "Way, way easy. The poll workers love the easy set up — remove the locks, verify the label and lift the lid. They can focus on making sure the polling place is organized, rather than rushing to get equipment set up. It's a huge time savings. Polling place set up is not a big deal anymore, it's so simple."

"The ES&S ExpressVotes are just so much easier to use. Before, we were spending hours and hours setting up the equipment on election morning," Summit County Clerk, Kent Jones said. "On Election Day, we use the ExpressVote as a ballot marker. Voters mark their selections, print their vote summary card and then those cards are tabulated together with the ballots that came in the mail. Everything's done centrally, so we handle and see everything."



The New Utah



- (18) Ballot on Demands
- (2) DS450s
- (14) DS200s
- (9) ExpressVotes



- (27) Ballot on Demands
- (2) DS450s
- (19) DS200s
- (25) ExpressVotes



- (1) DS450
- (18) ExpressVotes

FAST, SECURE BALLOT TABULATION

With the move to vote by mail, Utah officials needed to use the optical scan machines to process election results. Utah's old optical scanners, which were originally purchased to tabulate a small number of absentee ballots, required each ballot be hand fed into the machine.

"For the 2016 presidential election, Davis County mailed out 150,000 ballots and had a total vote turnout of 140,000. We ran all 140,000 ballots by hand through four older optical scanners, one at a time. It was very labor-intensive," Davis County Elections Manager Brian McKenzie said. "With the ES&S DS450 we can just put them in a stack and let them run."

With their old optical scanners, Davis County had four staff members counting ballots full time. With their new ES&S DS450, they have one-to-two team members who spend about a fourth of the time counting ballots.

McKenzie said, *"We can keep two of the DS450s running with one, one and a half people. As one person, I couldn't work as fast as the machines."*

IMPROVED POST-ELECTION AUDITING AND ADJUDICATION

When Utah counties started using DREs in the early 2000s, the state began requiring post-election audits. Typically, the process required a team of three people to audit each machine — one person to read the tape and two people to simultaneously record votes, making sure counts matched throughout. On average, the process took about two hours.

"I have to say that I could not be more pleased with how this (ES&S) system performed and counted the ballots. Being able to compare not only how the system originally counted a ballot, but also how the ballot was adjudicated, back to the digital image of the ballot itself is truly amazing. For the first time in my career, I feel like we have a transparent and auditable system," Cowley said.

"Compared to our previous system, thanks to auto adjudication we had far less to look at. We were inspecting every ballot before we ran it through the old optical scan machine. We didn't do any of that this time - we just ran them through," Jones said.

COMPREHENSIVE ONBOARDING AND TRAINING

Utah's onboarding process with ES&S was under a compressed timeline. ES&S onboarded 19 counties in 3-4 months.

"We changed everything except for voter registration — every piece of equipment that we used to process ballots was brand new. New accessible machines, new Ballot-on-Demand machines, new precinct tabulators, new central count tabulators, and new adjudication and audit process and procedures," Cowley said. "Receipt of the equipment and the training was all very timely. The ES&S team worked with about 50 people from 21 counties demonstrating each piece of equipment — leading detailed discussions about the equipment and how we saw it working for us. The team also helped with creating new policies and procedures. We received



"When we (Davis County) did our previous audits, we would only audit the races we were required to. With the new system we figured, the whole ballot is there, let's just look at everything," McKenzie said. "We did a full audit of the entire ballot, for all races. It was a more thorough audit, it covered all the races, and it only took two hours. We were just like, 'wow, it's so much better.'"



lot of support up front, and then we're able to take that and run with it."

McKenzie said, "Our experience from the beginning up to this point with ES&S has been phenomenal. Starting out, just getting to know the ES&S system went really well, and we were so impressed with the information ES&S could provide, coupled with the general feel of professionalism of the ES&S team. The organization and logistics when we were implementing the new system was really really good, the coordination of taking out the old equipment and bringing in the new equipment, the training, the people who came in and set us up and answered any questions we had, was great."

"Learning about the new equipment was probably the easiest transition it could have been. There wasn't a huge learning curve. ES&S simplified everything," Jones said. "We spent more time teaching the judges about the signature verification process than it took to learn the equipment."

CUSTOMER SERVICE EXCELLENCE

ES&S integrates good customer service into every aspect of our business. Our enthusiasm for the work we do and for our customers is unrivaled. ES&S' team of seasoned election professionals are empowered to think on their feet and work closely with our election administration partners to customize secure and innovative solutions to fit their needs.

Davis said, "The one thing that I would just sing praises to is the customer support – when we've had to call in with any type of question, whether it be concerning software or hardware support – the people on the other end of the line were phenomenal. I've personally experienced several instances where they have gone above and beyond. There was one time when I called in, it was near end of business day, and they gave me a solution. They made themselves available after their own hours to follow up and make sure we were able to implement the solution. All of them are so good at asking questions to make sure they fully understand the situation, and then they walk you through the process. Never have I felt like I was wasting their time and never are they frustrated. I can't say enough good things about the customer support. We've had really good experiences with everyone from ES&S. If someone has a bad experience with ES&S, you'd hear about it – and we don't."



"I'm going to brag about ES&S for a little bit," Weber County Elections Director Ryan Cowley said. "One of the things I think you guys always nail is customer support. With our previous vendors there was literally no support — things like trying to get parts and supplies, we just didn't get anything. The level of support we get from ES&S is a cultural thing — it's all about making sure you get the customer what they need. There is a much higher customer-service philosophy at ES&S."



Enhancing Elections in WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the [ExpressVote](#)® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the [DS200](#)® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.
- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.
- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.
- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.
- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.
- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."
- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.



Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

- User friendliness
- Paper records adding clear voter intent
- Ease of mind having a paper back-up
- Attractive system from an administrative standpoint
- Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

“What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product” Tammy Smith, Assistant Administrator, commented. “During a visit after that, we told them we were looking for products and couldn’t find them. The next time we saw them, they brought us a catalog!”

“Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote.”

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren’t familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.



In light of this, Wilson County makes sure that updated technology isn’t a barrier for those looking to serve yet not matching the required skill set level. “We try to configure our poll place system in a way that if they aren’t good with computers we can find a place for them if possible on Election Day” Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county’s comparison of the system to a grocery store self check-out. “Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It’s so organized people can almost go through the process on autopilot.”

One, who indicated she had a computer background, complimented the start to finish technology integrations. “Going from a more manual process of selecting ballot styles for people, this is much preferred. There’s no real error, you just print their barcode and they follow the instructions on screen from there.”

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

"We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

- Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our [website](#).



Results

- 1 Smoother canvass and hand count
- 2 Reduced number of morning follow up calls
- 3 Success means that results are ready 2-3 hours sooner



Susan Thomas, Harrison County Clerk



“All you have to do is touch your selections, check your printed ballot and put it into the tabulator.”

Georgianna Thompson,
Taylor County Clerk

“Commissioners were not excited about spending the money. I was fully prepared to continue maintaining the old equipment. The ExpressVote convinced them that it will pay dividends in the future.”

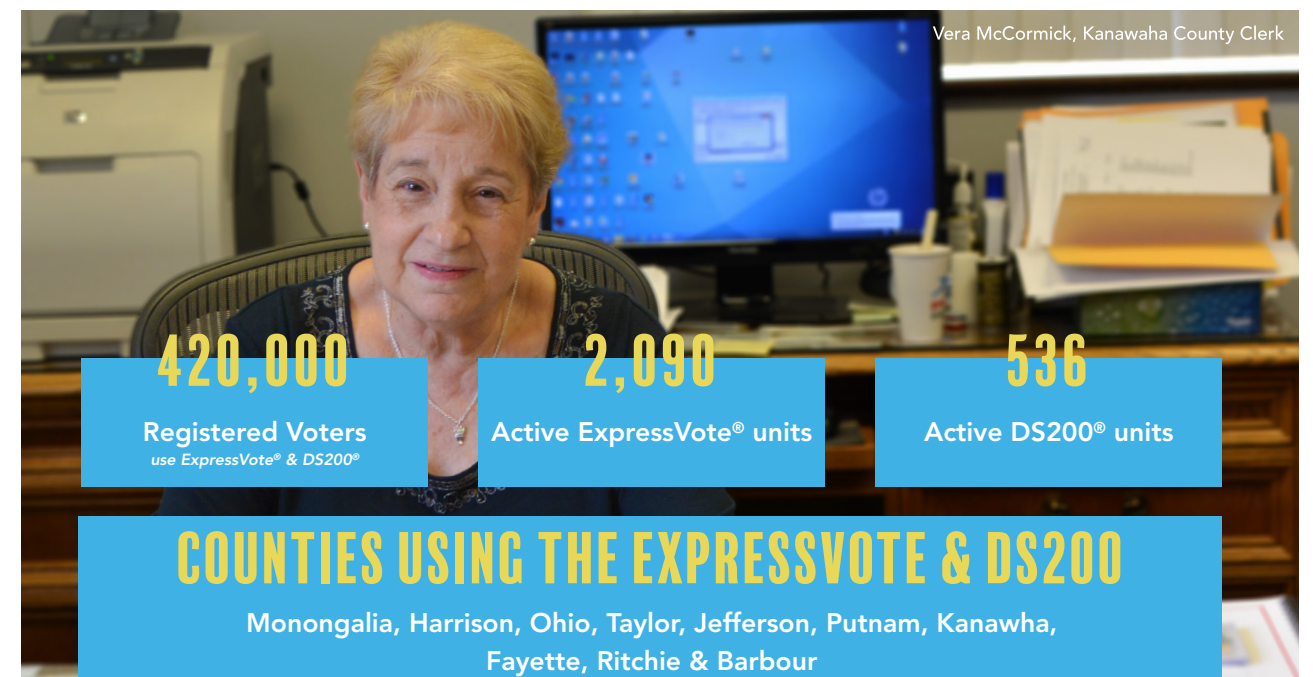
Brian Wood,
Putnam County Clerk

SEE FOR YOURSELF!
Call to request a demo!

HOW WEST VIRGINIA'S Election Officials Are Reducing Costs

While Improving the Election Experience for Voters & Poll Workers

Many voters across the U.S. are casting their ballots on a generation of aging, decade-plus old optical scan and direct-recording electronic (DRE) voting machines. Election officials nationwide rushed to embrace new voting technology after Congress passed the Help America Vote Act (HAVA) in 2002, which addressed the way ballots were designed, cast and counted, and led to an overhaul of the U.S. election system and eventually the birth of the DRE and optical scan machines. **Ten plus years later another major overhaul of the U.S. election system is underway, and a number of states are seriously considering a return to paper-based voting systems.**



*stats are current as of October 2017

As with many states in the early 2000s, West Virginia faced various challenges related to becoming compliant with HAVA. At the close of the 2005 West Virginia Legislative regular session, during which a voter-verified paper trail bill was signed into law, Secretary of State Betty Ireland began her search for a pioneering elections partner that could help West Virginia do three things: 1) meet the requirements of HAVA, 2) reduce the financial burden of becoming compliant off the counties as much as possible, and 3) offer counties quality voting system options.

In August 2005, ES&S was awarded the statewide contract to provide all of West Virginia’s counties with voting systems and election services. And in 2006, just over half of West Virginia’s 55 counties, whose County Clerks manage elections at the local level, purchased DRE systems while the remaining chose to purchase optical scan voting systems paired with central scanners, creating a dual system environment across the state.

Why the change?

Fast forward ten more years, similar to many states across the U.S., while their existing voting systems were withstanding the test of time, West Virginia’s jurisdictions began the process to find a more modern system that offered a paper-verifiable record.



Brian Wood, Putnam County Clerk

“Our equipment was aging. Having partnered with ES&S for ten plus years, we knew they were always developing solutions that made our lives easier and were more efficient, dependable and cost-effective.”

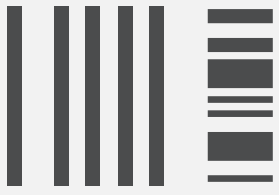
“The ExpressVote® was the best of both worlds with the electronic aspect, including improved visibility and ADA compliance, along with the paper verification where the voter can hold their selections in their hands, confirm everything is accurate, and then place it in the DS200® ballot slot.”

They were also ready to put away the challenges associated with their aging equipment and find a solution that simplified election management and improved voters’ experience at the polls. Much like the avid flip-phone users, whose carriers still supported their phones, and whose flip-phones still made calls — they ultimately realized how much easier and more efficient their life could be if they had a smartphone.

“So much less to worry about and less upkeep. We no longer have to deal with all of the different consumables,” said Susan Thomas, Harrison County Clerk. “You plug them in, flip a switch, lift a screen and both are powered up within five minutes. Plus, with ExpressVote and DS200 everything is a lot simpler for us on the backend.”

It was important to them that their new equipment made the backend of their elections easier for not only themselves and their teams, but the poll workers as well. Equipment that wasn’t hard to haul around, was easier to program and would ease the burden of having to hand count write-in and canvass ballots.

“The ballots marked on the ExpressVote require less storage due to their size, and the leftover blank cardstock can be reused in other elections. We can do satellite voting now, and don’t have to carry all of those preprinted ballots with us.”



Vera McCormick,
Kanawha County Clerk



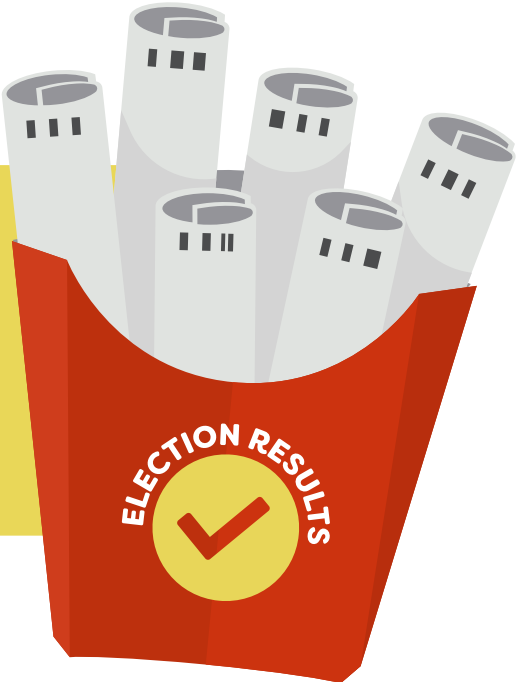
“Canvass and hand count went very smoothly; the ballot was easy to read and easy to determine the voter’s intent. NO OVERVOTES!”

The clerks wanted a truly usable summary report of the final results, a more robust in-depth audit report. They wanted to deliver their county’s election results before 3 a.m. so the candidates and the people who had worked so hard supporting them could either get their parties started or start picking up campaign signs.

“We live in a fast food world, and people want their results right away”

“The candidates and their supporters have worked for a long time to get there, so they are very anxious to get the results. So is the media ... it’s nice to give them what they need, and get them back to work by 10 p.m. instead of 3 a.m.”

Brian Wood, Putnam County Clerk



Most importantly, they wanted every one of their voters to have a consistent, simple and secure election experience. This included having only one system to vote on, that was easy to use and that included a verifiable paper record that allowed them to confirm that the selections they marked were what they intended.

“We demo’ed the equipment in several different locations with seniors, many of which who were in their 90s. We didn’t really have to explain much to them as far as how to use it, and everyone liked it,” said McCormick. “They liked having a piece of paper in their hand that they could hold, so there was no guessing.”

EXPRESSVOTE GETS PUT TO THE TEST

Blindbargains.com Tested Three Modern Voting Machines for Accessibility

Recently the Michigan Bureau of Elections held a Mock Election, allowing testers and poll workers to use voting systems from three different vendors, including our ExpressVote, designed for both voters with disabilities and voters without. One of the testers, J.J. Meddaugh with Blindbargains.com tested all the offerings, concluding that the ExpressVote was the best choice of the group being the only one he would recommend in its current form. For more details about each voting system Mr. Meddaugh experienced read a summary of his article below.

Dominion ImageCast Democracy Suite

The voting system from Dominion included an accessible keypad, touchscreen and a printer for paper ballots. Initial set-up of the machine required the use of a digital programming card which included information to load and verify the ballot. While I was able to insert the card, several set-up steps needed to be performed by a poll worker. Among these were choice of language, and the screen privacy guard option, which allows a voter to turn off the visual screen output. It's worth noting that this is the only machine which does not allow the voter to change this setting after initial set-up.

Once speech was finally available, I was presented with initial instructions read by Google's Android text-to-speech voice and an options menu which allowed me to change volume, speech rate and visual display options. Unfortunately, the maximum volume was not loud enough for a noisy room, and the fastest speech rate was less than what is available on Android and too slow for an advanced speech user.

The keypad features buttons in various shapes which can be readily identified. Left and right arrows are on the left side while up and down arrows are on the right. There is a large X in the center which is used for selection. Dedicated buttons to adjust the volume and speech rate are found near the top. All buttons have braille labels near them, though the layout of the keys often made the placement of the braille labels confusing. The design choice to place the two sets of arrows far away from each other is perplexing at best.

The machine was plagued by user interface issues, often requiring the voter to press several key presses to accomplish a simple task. For example, when reviewing a ballot, if the user wanted to change a vote from NO to Yes, no less than 9 key presses were required to accomplish this task. In addition, the function of the right and down arrows are duplicated, as well as the up and left arrows. I was told this was done because of the needs of low vision users, but it made the navigation of the ballot needlessly time-consuming and complicated. Often, help and tutorial messages were spoken before important content, such as when speaking the name of an entered write-in candidate.

Another issue arose when speaking the names of the candidates and ballot proposal language. This information was spoken using the Cepstral text-to-speech engine, with the recordings in a much lower quality and volume than the rest of the speech feedback. Using the same text-to-speech voice throughout the system would be ideal. Care also needs to be taken when speaking the titles of ballot proposals and other items. The word millage, a common election term, was mispronounced.

Help information was given throughout the process, and presented in the manner of screen reader hints. Speech could be easily interrupted if the user chose to not listen to the help information.

While I was able to complete and print my ballot, I'm hard-pressed to recommend this system in its current form. That being said, many of the issues identified are software-based and could be fixed using a firmware update.

Hart InterCivic Verity Touch Writer

Hart InterCivic calls their Verity system “The Future of Elections”. To be completely blunt, if this is the case, I’m worried for the state of accessible voting equipment.

Set-up involved the poll worker entering in a code to load the appropriate ballot using the touch-screen. This process did not include speech feedback and was not accessible. Once the ballot was loaded, pre recorded instructions in a male voice were spoken through the headset.

The accessible keypad includes two buttons (Select and Help), and a dial called the Move Wheel which can be turned using the thumb. The dial emulates arrow keys and allows the user to go through menus while the Select button locks in the current choice. The use of only three controls was an intentional design choice, but it quickly became limiting when attempting to efficiently navigate the screen.

The initial screen included a menu to adjust audio settings including volume and speech rate. To adjust the volume, one must select the raise or lower options and then press select for the new volume level to take effect. This is the only machine of the

three tested which did not include dedicated volume and speed controls, which presents a hassle if one wants to make adjustments during the voting process. Only three speech rates were available, with the fastest option still quite slow for advanced users. In addition, since human speech is used throughout the process, the faster speech level resulted in choppiness and audio artifacts which made it more difficult to understand the recorded prompts.

I did not complete my ballot with this machine because of one major reason...HORRENDOUS LAG. Users of electronic devices may often become frustrated when it takes a quarter second or more to hear audio feedback after pressing a button. When using the Move dial on the Verity, it often took 3 or 4 seconds for any feedback to be given after the dial was turned. In addition, after pressing the Help button, it was often difficult or impossible to interrupt the instructional message and return to the previous screen.

After spending about 10 minutes with the machine and still working on my first ballot selection of 23 contests, my frustration level reached a point where I had completely lost interest in completing my ballot.

ES&S ExpressVote

With my faith in modern voting technology quickly running out, I moved to the last of the machines, The ExpressVote from Election Systems & Software. ES&S purchased the assets of the former AutoMARK system, and the design of this model takes many cues from the previous version, which is a good thing.

I walked up to the machine and inserted my paper ballot into the reader, which immediately caused speech feedback to begin. No intervention was necessary from the election workers.

The keypad includes a rocker button for Volume labeled VOL in braille and another for voice speed labeled TPO for tempo. To the left of this is a five-way navigation pad with a select button in the center. A button to turn on and off screen input can be found near

the top. Beeps are heard when buttons are pressed, and speech feedback is given within a quarter second. A more modern male voice is used on this model, as opposed to Eloquence speech on the AutoMARK, but it was clear and easily understood.

For those familiar with the AutoMARK, the voting process was nearly identical. Up and down arrows are used to move through ballot choices, and right and left arrows move between contests. For new users, contextual help information is given as hints. Warnings are given if a ballot question is skipped without the appropriate number of votes or if a user attempts to vote for too many candidates in a contest. Overall, I completed my 23-question ballot in about 5 minutes.

CONCLUSION

Of the three systems tested , the ExpressVote is the only one I am comfortable recommending in its current form. Set-up was achieved independently by the voter, prompts were spoken efficiently, and a ballot could be completed using the fewest number of key presses.

APPENDIX C – SYSTEM DEVELOPMENT PROGRAM & CODING STANDARDS

RFP NAME: Statewide Voting System				
RFP NUMBER: 47800-SOS0000037				
SUPPLIER: Election Systems & Software, LLC				
Attachment D - Mandatory Questions				
Suppliers must answer all the questions in this spreadsheet in the cell provided.				
<u>Failure to answer these questions will result in disqualification of the proposal.</u>				
Suppliers must indicate whether their proposal meets each individual requirement and provide a supporting narrative. The narrative description, along with any required supporting materials, will be evaluated and awarded points in accordance with Section 6, Proposal Evaluation and Award. ONLY upload documents if there is a Yes in the "Upload Attchts with Additional Information?" column to provide additional information about specific questions. Documents not requested in this column will not be evaluated.				
DO NOT INCLUDE ANY COST INFORMATION IN YOUR RESPONSE TO THIS WORKSHEET.				
Question #	Questions per Proposal Factors/Categories	Response by Offeror. Only Yes or No Answers	Upload Attchts with Additional Information?	Attachment File Name
Proposal Factors				
1	EAC Certified. The proposed SVS must be certified by the U.S. Election Assistance Commission (EAC) and must have obtained (at minimum) EAC certification in conformance with the Voluntary Voting System Guidelines (VVSG) Version 1.0. Provide EAC certification documentation.	Yes	Yes	0-1 EAC Certification
2	Voter-Handled Paper Ballot Verification. The proposed SVS solution must provide a voter verifiable paper ballot for every vote cast. The proposed SVS must produce a physical, voter-handled ballot containing the voter's selections from the input made by the voter. It must also facilitate navigating, marking, and reviewing the displayed ballot on the Ballot Marking Device (BMD) that can be printed, scanned, imaged, and tabulated by the Polling Place Scanner (PPS) and Central Scanning Device (CSD). Provide example BMD and Absentee by Mail ballots created by the proposed SVS.	Yes	Yes	0-2 Example Ballots
3	State Level and EPoll Dataset-Building and Reporting. Supplier must propose a SVS solution that includes: - State level ballot building (EMS) - EPoll data set building and reporting (EPDMS), - Electronic Poll Books (EPoll), - Ballot Marking Devices (BMD), - Polling Place Scanners (PPS), - Central Scanning Devices (CSD), - Consumables, - and Peripherals Provide the name and configuration of the product(s), product descriptions, and quantity proposed to be provided in the SVS (do not include cost).	Yes	Yes	0-3 Proposed SVS
4	Organizational Structure/CVs. List key personnel including personnel that would supervise implementation of the proposed SVS and provide a CV or resume for each person uploaded as "Organizational Structure."	Yes	Yes	0-4 Org Structure
5	Litigation and Default. List all litigation, contract breaches, and events of default you have been a party to in the past ten years on the attached form titled "Litigation and Default."	Yes	Yes	0-5 Litigation and Default
6	Financials. Provide evidence of financial health to include, if available, financial statements, financial institution agreements for inventory and production, balance sheets, profit and loss reports for the past three years, Dun and Bradstreet Business Credit Reports, and PAYDEX Score uploaded as "Financial Documentation."	Yes	Yes	0-6 Financial Docs
7	References. Provide a list of current and past clients that have implemented a similar voting system solution to the proposed SVS on the form titled "References."	Yes	Yes	0-7 References

ATTACHMENT D – MANDATORY QUESTIONS

EAC CERTIFIED.

0-1 EAC CERTIFICATION

EAC Certified.

The proposed SVS must be certified by the U.S. Election Assistance Commission (EAC) and must have obtained (at minimum) EAC certification in conformance with the Voluntary Voting System Guidelines (VVSG) Version 1.0. Provide EAC certification documentation.

ES&S RESPONSE

The proposed system, EVS 6.0.2.0, received EAC certification on October 4, 2018. Please see the included EAC certification documentation.

ES&S is a well-capitalized, professionally managed company, capable of continuously sustaining high-quality development and support to our customers for the long term. ES&S' financial strength and stability has allowed ES&S to continually look to the future, furthering technical innovation via well-funded research and development, while maintaining the high-quality service and support that our customers require.

ES&S has more than 40 years of experience developing ballot optical scan technology. As we continue to invest in ballot counting solutions to meet a diverse range of election requirements, ES&S allocates more ongoing system research and development funds from year to year than any competitor.

ES&S is constantly engaged in research to enhance current products. Hardware, software and firmware enhancements are engineered, developed and tested on an ongoing basis. ES&S maintains a robust staff dedicated to product improvements and R&D. The R&D staff is comprised of electronic and software engineers, QA analysts, software testers, documentation personnel and certification specialists.

ES&S has a long history of commitment to and supporting federal voting systems standards and guidelines. As each new standard is proposed and adopted, ES&S will review such standard and determine whether or not the standard applies to the ES&S products. If such standard applies and the development necessary to keep a product current is feasible and reasonable, ES&S will work towards implementing the necessary changes into a future release that could be made available to customers.



United States Election Assistance Commission

Certificate of Conformance

ES&S EVS 6.0.2.0



The voting system identified on this certificate has been evaluated at an accredited voting system testing laboratory for conformance to the *Voluntary Voting System Guidelines Version 1.0 (VVSG 1.0)*. Components evaluated for this certification are detailed in the attached Scope of Certification document. This certificate applies only to the specific version and release of the product in its evaluated configuration. The evaluation has been verified by the EAC in accordance with the provisions of the *EAC Voting System Testing and Certification Program Manual* and the conclusions of the testing laboratory in the test report are consistent with the evidence adduced. This certificate is not an endorsement of the product by any agency of the U.S. Government and no warranty of the product is either expressed or implied.

Product Name: EVS _____

Model or Version: 6.0.2.0 _____

Name of VSTL: SLI Compliance _____

EAC Certification Number: ESSEVS6020 _____

Date Issued: October 4, 2018 _____

Executive Director

Scope of Certification Attached

Manufacturer: Election Systems & Software
System Name: EVS 6.0.2.0
Certificate: ESSEVS6020

Laboratory: SLI Compliance
Standard: VVSG 1.0 (2005)
Date: October 4, 2018



Scope of Certification

This document describes the scope of the validation and certification of the system defined above. Any use, configuration changes, revision changes, additions or subtractions from the described system are not included in this evaluation.

Significance of EAC Certification

An EAC certification is an official recognition that a voting system (in a specific configuration or configurations) has been tested to and has met an identified set of Federal voting system standards. An EAC certification is **not**:

- An endorsement of a Manufacturer, voting system, or any of the system's components.
- A Federal warranty of the voting system or any of its components.
- A determination that a voting system, when fielded, will be operated in a manner that meets all HAVA requirements.
- A substitute for State or local certification and testing.
- A determination that the system is ready for use in an election.
- A determination that any particular component of a certified system is itself certified for use outside the certified configuration.

Representation of EAC Certification

Manufacturers may not represent or imply that a voting system is certified unless it has received a Certificate of Conformance for that system. Statements regarding EAC certification in brochures, on Web sites, on displays, and in advertising/sales literature must be made solely in reference to specific systems. Any action by a Manufacturer to suggest EAC endorsement of its product or organization is strictly prohibited and may result in a Manufacturer's suspension or other action pursuant to Federal civil and criminal law.

System Overview

The ES&S EVS 6.0.2.0 voting system is a modification of the ES&S EVS 6.0.0.0 voting system, certified on July 2, 2018, which contains limited changes to the Electionware application. The ES&S EVS 6.0.2.0 voting system is composed of software applications, central count location devices and polling place devices with accompanying firmware, and COTS hardware and software.

Electionware®

Electionware election management software is an end-to-end election management software application that provides election definition creation, ballot formation, equipment

configuration, result consolidation, adjudication and report creation. Electionware is composed of five software groups: Define, Design, Deliver, Results and Manage.

ExpressVote XL™

ExpressVote XL is a hybrid paper-based polling place voting device that provides a full-face touchscreen vote capture that incorporates the printing of the voter's selections as a cast vote record, and tabulation scanning into a single unit.

ExpressTouch®

ExpressTouch Electronic Universal Voting System (ExpressTouch) is a DRE voting system which supports electronic vote capture for all individuals at the polling place.

ExpressVote® Hardware 1.0

ExpressVote Universal Voting System Hardware 1.0 (ExpressVote HW1.0) is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record, to be scanned for tabulation in any one of the ES&S precinct or central scanners.

ExpressVote® Hardware 2.1

ExpressVote Universal Voting System Hardware 2.1 (ExpressVote HW2.1) is a hybrid paper-based polling place voting device that provides touch screen vote capture that incorporates the printing of the voter's selections as a cast vote record, and tabulation scanning into a single unit. ExpressVote HW2.1 is capable of operating in either marker or tabulator mode, depending on the configurable mode that is selected in Electionware.

There are two separate versions of the ExpressVote hardware version 2.1: 2.1.0.0 and version 2.1.2.0 (6.4 & 6.8). Please note that all future references to ExpressVote HW 2.1 as used throughout the document refers to both hardware versions.

DS200®

DS200 is a polling place paper-based voting system, specifically a digital scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic Cast Vote Records (CVR).

DS450®

DS450 is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic Cast Vote Records (CVR).

DS850®

DS850 is a central scanner and tabulator that simultaneously scans the front and back of a paper ballot and/or vote summary card in any of four orientations for conversion of voter selection marks to electronic Cast Vote Records (CVR).

Event Log Service (ELS)

ELS monitors and logs users' interactions with the Election Management System. Events that happen when a connection to the database is not available are logged to the Windows Operating System log through the ELS.

Removable Media Service (RMS)

RMS is a utility that runs in the background of the Windows operating system. RMS reads specific information from any attached USB devices so that ES&S applications such as Electionware can use that information for media validation purposes.

Configurations

Within the scope of the ES&S EVS 6.0.2.0 voting system, three unique configurations are supported, in order to accommodate limitations of components with the ES&S EVS 6.0.2.0 voting system.

Configuration A

ES&S EVS 6.0.2.0: Test Configuration A is comprised of the entire suite of voting system products.

- Electionware
- ExpressVote Marker (HW 1.0)
- ExpressVote Marker/Tabulator (HW 2.1)
- ExpressVote XL
- ExpressTouch
- DS200
- DS450
- DS850

Configuration B

- Electionware
- ExpressVote Marker (HW 1.0)
- ExpressVote Marker/Tabulator (HW 2.1)
- DS200
- DS450
- DS850

Configuration C

- Electionware
- ExpressVote XL

Mark Definition

ES&S' declared level mark recognition for the DS200, DS450 and DS850 is a mark across the oval that is 0.02" long x 0.03" wide at any direction.

Tested Marking Devices

Bic Grip Roller Pen

Language Capability

EVS 6.0.2.0 supports English, Spanish, Chinese (Cantonese), Korean, Japanese, Hindi, Bengali, Vietnamese, Tagalog, Creole, Russian, and French. Configuration C also supports Punjabi and Gujarati.

Proprietary Components Included

This section provides information describing the components and revision level of the primary components included in this Certification.

System Component	Software or Firmware Version	Hardware Version	Model	Comments
Electionware	5.0.1.0			
ES&S Event Log Service	1.6.0.0			
Removable Media Service	1.5.0.0			
ExpressVote HW 1.0	1.5.0.0	1.0		Paper-based vote capture and selection device
ExpressVote Previewer (1.0)	1.5.0.0			
ExpressVote HW 2.1	2.4.0.0	2.1.0.0 2.1.2.0		Hybrid paper-based vote capture and selection device and precinct count tabulator
ExpressVote Previewer (2.1)	2.4.0.0			
DS200	2.17.0.0	1.2.1, 1.2.3, 1.3		Precinct Count Tabulator
DS450	3.1.0.0	1.0		Central Count Scanner and Tabulator
DS850	3.1.0.0	1.0		Central Count Scanner and Tabulator
ExpressVote XL	1.0.0.0	1.0		Hybrid full-faced paper-based vote capture and selection device and precinct count tabulator
ExpressTouch	1.0.0.0	1.0		DRE
ExpressVote Rolling Kiosk		1.0	98-00049	Portable Voting Booth
Voting Booth		N/A	98-00051	Stationary Voting Booth
ExpressVote Single Table		N/A	87033	Voting Table for One Unit
ExpressVote Double Table		N/A	87032	Voting Table for Two Units
ADA Table		N/A	87031	Voting Table for One Unit

System Component	Software or Firmware Version	Hardware Version	Model	Comments
DS200 Ballot Box		1.0	98-00009	Collapsible Ballot Box
DS200 Ballot Box		1.2, 1.3, 1.4, 1.5	57521	Plastic ballot box
DS200 Ballot Box		1.0, 1.1, 1.2	76245	Metal ballot box
DS200 Tote Bin		1.0	00074	Tote Bin Ballot Box
DS450 Cart		N/A	3002	
DS850 Cart		N/A	6823	
Universal Voting Console		1.0	98-00077	Detachable ADA support peripheral
Tabletop Easel		N/A	14040	
ExpressTouch Voting Booth		N/A	98-00081	Stationary Voting Booth
SecureSetup	2.0.0.1			Proprietary Hardening Script

COTS Software

Manufacturer	Application	Version
Microsoft Corporation	Server 2008	R2 w/ SP1 (64-bit)
Microsoft Corporation	Windows 7 Professional	SP1 (64-bit)
Microsoft Corporation	WSUS Microsoft Windows Offline Update Utility	11.1.1
Symantec	Endpoint Protection	14.0.1 (64-bit)
Symantec	Symantec Endpoint Protection Intelligent Updater (File-Based Protection)	20180116-002-core3sds5i64.exe
Symantec	Symantec Endpoint Protection Intelligent Updater (Network-Based Protection)	20180115-040-IPS_IU_SEP_14RU1.exe
Symantec	Symantec Endpoint Protection Intelligent Updater (Behavior-Based Protection)	20180108-003-SONAR_IU_SEP.exe
Cerberus	CerberusFTP Server – Enterprise	9.0.3.1 (64-bit)
Adobe	Acrobat	XI
Microsoft Corporation	Visual C++ Redistributable	vc_redist.x86.exe (32-bit)
RSA Security	RSA BSAFE Crypto-C ME for Windows 32-bit	4.1
OpenSSL	OpenSSL	2.0.12
OpenSSL	OpenSSL	2.0.16
OpenSSL	OpenSSL	1.02d
OpenSSL	OpenSSL	1.02h
OpenSSL	OpenSSL	1.02k

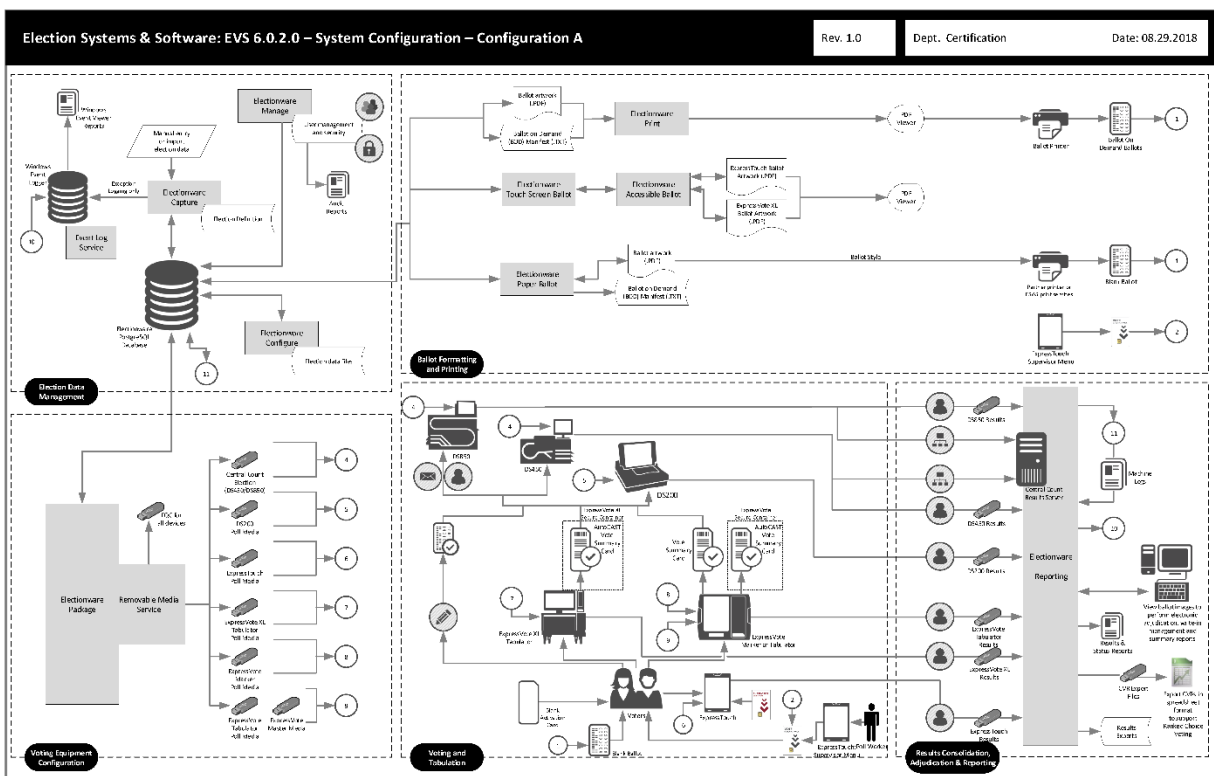
COTS Hardware

Manufacturer	Hardware	Model/Version
EMS Server		
EMS Client or Standalone Workstation		
Innodisk	USB EDC H2SE (1GB) for ExpressVote 1.0	DEEUH 1-01GI72AC1SB
Innodisk	USB EDC H2SE (16GB) for ExpressVote 2.1	DEEUH 1-16GI72AC1SB
Delkin	USB Flash Drive	512MB, 1 GB, 2 GB, 4 GB, 8 GB
Delkin	Validation USB Flash Drive	16 GB

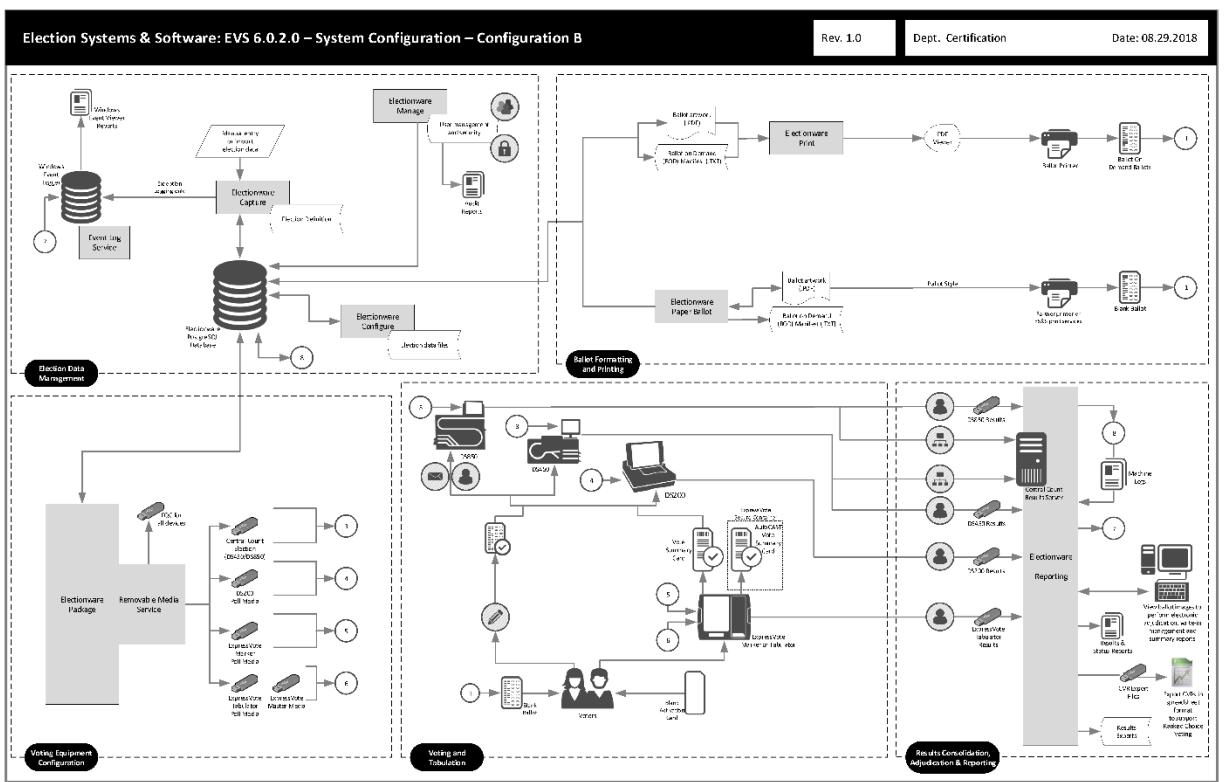
Delkin	USB Embedded 2.0 Module Flash Drive	MY16MGFSY-RA000-D / 16 GB
Delkin	Compact Flash Memory Card	1 GB
Delkin	Compact Flash Memory Card Reader/Writer	6381
Delkin	CFAST Card	2GB, 4GB
Lexar	CFAST Card Reader/Writer	LRWCR1TBNA
CardLogix	Smart Card	CLXSU128KC7/ AED C7
SCM Microsystems	Smart Card Writer	SCR3310
Avid	Headphones	86002
Zebra Technologies	QR code scanner (Integrated)	DS457-SR20009
Symbol	QR Code scanner (External)	DS9208
Dell	DS450 Report Printer	S2810dn
OKI	DS450 and DS850 Report Printer	B431dn/B431d
OKI	DS450 and DS850 Audit Printer	Microline 420
APC	DS450 UPS	Back-UPS Pro 1500
APC	DS850 UPS	Back-UPS RS 1500 or Pro 1500
Tripp Lite	DS450 and DS850 Surge Protector	Spike Cube
Seiko Instruments	Thermal Printer	LTPD-347B
NCR/Nashua	Paper Roll	2320
Fujitsu	Thermal Printer	FTP-62GDSL001/ FTP-63GMCL153

Configuration Diagrams

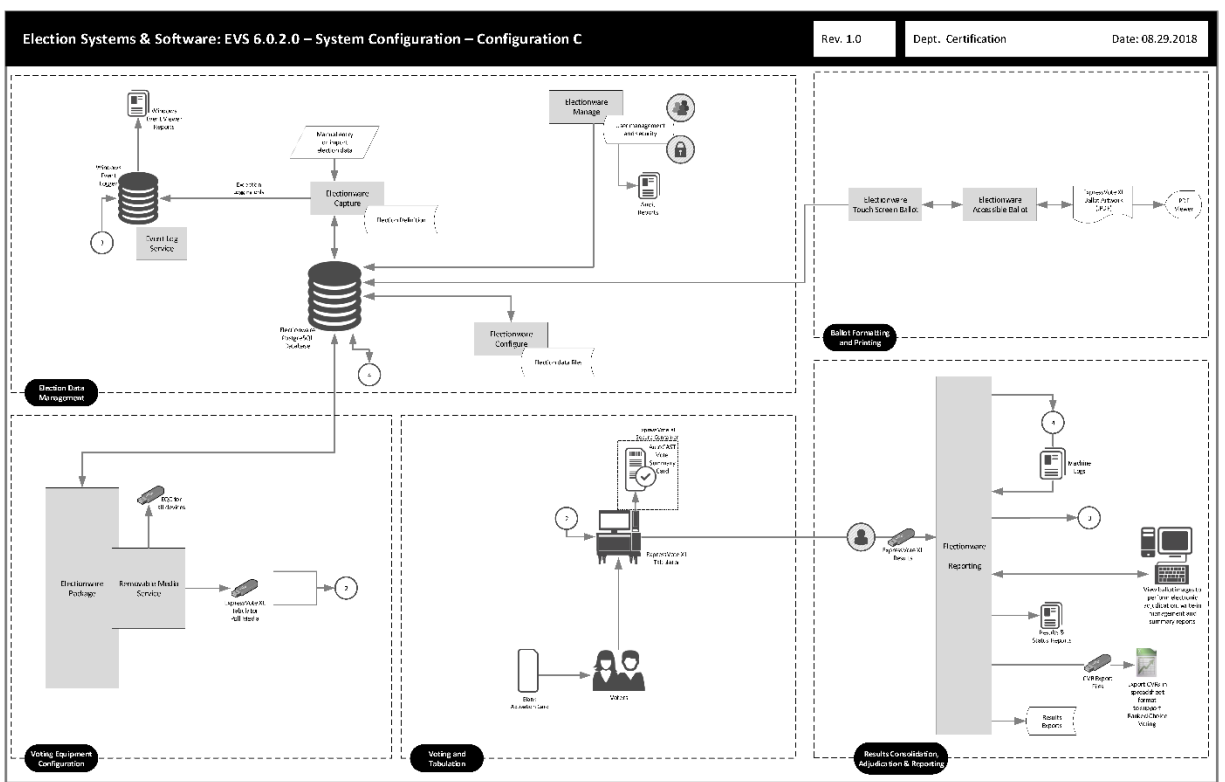
Configuration A



Configuration B



Configuration C



System Limitations

This table depicts the limits the system has been tested and certified to meet.

System Characteristic	Boundary or Limitation	Limiting Component
Max. precincts allowed in an election	9,900	
Max. ballot styles in an election	15,000	
Max. candidates allowed per election	10,000	
Max. contests allowed in an election	10,000	
Max. number of parties allowed	General election: 75 Primary election: 30	
Max. District Types/Groups	25	
Max. districts of a given type	250	
Max. Contests allowed per ballot style	500	
Max. Reporting Groups in an election	14	
Max. candidates allowed per contest	230	
Max. "Vote For" per contest	230	
Max. ballots per batch	1,500	

Component Limitations:

Electionware

1. Electionware capacities exceed the boundaries and limitations documented for ES&S voting equipment and election reporting software. For this reason, ballot tabulator limitations define the boundaries and capabilities of Electionware system.
2. Electionware software field limits were calculated using default text sizes for ballot and report elements. Some uses and conditions, such as magnified ballot views or combining elements on printed media or ballot displays, may result in limits lower than those listed in the System Overview.
3. The Electionware Export Ballot Images function is limited to 250 districts per export.
4. Electionware is limited to the language special characters listed in the System Overview. Language special characters other than those on this list may not appear properly when viewed on equipment displays or reports.

5. The Straight Party feature must not be used in conjunction with the Single or Multiple Target Cross Endorsement features.
6. The 'MasterFile.txt' and the 'Votes File.txt' do not support results for elections that contain multiple sheets or multiple ExpressVote cards per voter. These files can be produced using the Electionware > Reporting > Tools > Export Results menu option. This menu option is available when the Rules Profile is set to "Illinois".

Paper Ballot Limitations

1. The paper ballot code channel, which is the series of black boxes that appear between the timing track and ballot contents, limits the number of available ballot variations depending on how a jurisdiction uses this code to differentiate ballots. The code can be used to differentiate ballots using three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30) or Split (available codes 1-18).
2. If Sequence is used as a ballot style ID, it must be unique election-wide and the Split code will always be 1. In this case the practical style limit would be 16,300.
3. The ExpressVote activation card has a limited ballot ID based on the three different fields defined as: Sequence (available codes 1-16,300), Type (available codes 1-30) or Split (available codes 1-18).

ExpressVote

1. ExpressVote capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting system. For this reason, Election Management System and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote system as the maximum capacities of the ES&S ExpressVote are never approached during testing.

ExpressVote XL

1. ExpressVote XL capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting systems. For this reason, Election Management System and ballot tabulator limitations define the boundaries and capabilities of the ExpressVote XL system as the maximum capacities of the ES&S ExpressVote XL are never approached during testing.
2. ExpressVote XL does not offer open primary support based on the ES&S definition of Open Primary, which is the ability to select a party and vote based on that party.
3. ExpressVote XL does not support Massachusetts Group Vote.
4. ExpressVote XL does not support Universal Primary Contest.
5. ExpressVote XL does not support Multiple Target Cross Endorsement.
6. ExpressVote XL does not support Reviewer or Judges Initials boxes.
7. ExpressVote XL does not support multi-card ballots.
8. In a General election, one ExpressVote XL screen can hold 32 party columns if set up as columns or 16 party rows if set up as rows.
9. ExpressVote XL does not support Team Write-In.

ExpressTouch

1. ExpressTouch capacities exceed all documented limitations for the ES&S election management, vote tabulation and reporting systems. For this reason, Election Management System limitations define the boundaries and capabilities of the ExpressTouch system as the maximum capacities of the ES&S ExpressTouch are never approached during testing.

2. ExpressTouch does not offer open primary support, which is the ability to select a party and vote based on that party.
3. ExpressTouch does not support Massachusetts Group Vote.
4. ExpressTouch does not support Universal Primary Contest.
5. ExpressTouch does not support Multiple Target Cross Endorsement.
6. ExpressTouch does not support Team Write-In.

DS200

1. The ES&S DS200 configured for an early vote station does not support precinct level results reporting. An election summary report of tabulated vote totals is supported.
2. The DS200 storage limitation for write-in ballot images is 3,600 images. Each ballot image includes a single ballot face, or one side of one page.
3. Write-in image review requires a minimum 1GB of onboard RAM.
4. To successfully use the Write-In Report, ballots must span at least three vertical columns. If the column is greater than 1/3 of the ballot width (two columns or less), the write-in image will be too wide to print on the tabulator report tape.

Functionality

VVSG 1.0 Supported Functionality Declaration

Feature/Characteristic	Yes/No	Comment
Voter Verified Paper Audit Trails		
VVPAT	No	
Accessibility		
Forward Approach	Yes	
Parallel (Side) Approach	Yes	
Closed Primary		
Primary: Closed	Yes	
Open Primary		
Primary: Open Standard (provide definition of how supported)	Yes	Configuration B only
Primary: Open Blanket (provide definition of how supported)	No	
Partisan & Non-Partisan:		
Partisan & Non-Partisan: Vote for 1 of N race	Yes	
Partisan & Non-Partisan: Multi-member ("vote for N of M") board races	Yes	
Partisan & Non-Partisan: "vote for 1" race with a single candidate and write-in voting	Yes	
Partisan & Non-Partisan "vote for 1" race with no declared candidates and write-in voting	Yes	
Write-In Voting:		
Write-in Voting: System default is a voting position identified for write-ins.	Yes	
Write-in Voting: Without selecting a write in position.	Yes	
Write-in: With No Declared Candidates	Yes	
Write-in: Identification of write-ins for resolution at central count	Yes	
Primary Presidential Delegation Nominations & Slates:		
Primary Presidential Delegation Nominations: Displayed delegate slates for each presidential party	No	

Feature/Characteristic	Yes/No	Comment
Slate & Group Voting: one selection votes the slate.	No	
Ballot Rotation:		
Rotation of Names within an Office; define all supported rotation methods for location on the ballot and vote tabulation/reporting	Yes	
Straight Party Voting:		
Straight Party: A single selection for partisan races in a general election	Yes	
Straight Party: Vote for each candidate individually	Yes	
Straight Party: Modify straight party selections with crossover votes	Yes	
Straight Party: A race without a candidate for one party	Yes	
Straight Party: N of M race (where "N">1)	Yes	
Straight Party: Excludes a partisan contest from the straight party selection	Yes	
Cross-Party Endorsement:		
Cross party endorsements, multiple parties endorse one candidate.	Yes	
Split Precincts:		
Split Precincts: Multiple ballot styles	Yes	
Split Precincts: P & M system support splits with correct contests and ballot identification of each split	Yes	
Split Precincts: DRE matches voter to all applicable races.	Yes	
Split Precincts: Reporting of voter counts (# of voters) to the precinct split level; Reporting of vote totals is to the precinct level	Yes	It is possible to list the number of voters.
Vote N of M:		
Vote for N of M: Counts each selected candidate, if the maximum is not exceeded.	Yes	
Vote for N of M: Invalidates all candidates in an overvote (paper)	Yes	
Recall Issues, with options:		
Recall Issues with Options: Simple Yes/No with separate race/election. (Vote Yes or No Question)	No	
Recall Issues with Options: Retain is the first option, Replacement candidate for the second or more options (Vote 1 of M)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon a specific vote in contest one. (Must vote Yes to vote in 2 nd contest.)	No	
Recall Issues with Options: Two contests with access to a second contest conditional upon any vote in contest one. (Must vote Yes to vote in 2 nd contest.)	No	
Cumulative Voting		
Cumulative Voting: Voters are permitted to cast, as many votes as there are seats to be filled for one or more candidates. Voters are not limited to giving only one vote to a candidate. Instead, they can put multiple votes on one or more candidate.	No	
Ranked Order Voting		
Ranked Order Voting: Voters can write in a ranked vote.	No	

Feature/Characteristic	Yes/No	Comment
Ranked Order Voting: A ballot stops being counting when all ranked choices have been eliminated	No	
Ranked Order Voting: A ballot with a skipped rank counts the vote for the next rank.	No	
Ranked Order Voting: Voters rank candidates in a contest in order of choice. A candidate receiving a majority of the first choice votes wins. If no candidate receives a majority of first choice votes, the last place candidate is deleted, each ballot cast for the deleted candidate counts for the second choice candidate listed on the ballot. The process of eliminating the last place candidate and recounting the ballots continues until one candidate receives a majority of the vote	No	
Ranked Order Voting: A ballot with two choices ranked the same, stops being counted at the point of two similarly ranked choices.	No	
Ranked Order Voting: The total number of votes for two or more candidates with the least votes is less than the votes of the candidate with the next highest number of votes, the candidates with the least votes are eliminated simultaneously and their votes transferred to the next-ranked continuing candidate.	No	
Provisional or Challenged Ballots		
Provisional/Challenged Ballots: A voted provisional ballots is identified but not included in the tabulation, but can be added in the central count.	Yes	
Provisional/Challenged Ballots: A voted provisional ballots is included in the tabulation, but is identified and can be subtracted in the central count	Yes	
Provisional/Challenged Ballots: Provisional ballots maintain the secrecy of the ballot.	Yes	
Overvotes (must support for specific type of voting system)		
Overvotes: P & M: Overvote invalidates the vote. Define how overvotes are counted.	Yes	
Overvotes: DRE: Prevented from or requires correction of overvoting.	Yes	
Overvotes: If a system does not prevent overvotes, it must count them. Define how overvotes are counted.	Yes	
Overvotes: DRE systems that provide a method to data enter absentee votes must account for overvotes.	Yes	
Undervotes		
Undervotes: System counts undervotes cast for accounting purposes	Yes	
Blank Ballots		
Totally Blank Ballots: Any blank ballot alert is tested.	Yes	
Totally Blank Ballots: If blank ballots are not immediately processed, there must be a provision to recognize and accept them	Yes	
Totally Blank Ballots: If operators can access a blank ballot, there must be a provision for resolution.	Yes	
Networking		
Wide Area Network – Use of Modems	No	
Wide Area Network – Use of Wireless	No	

Feature/Characteristic	Yes/No	Comment
Local Area Network – Use of TCP/IP	No	
Local Area Network – Use of Infrared	No	
Local Area Network – Use of Wireless	No	
FIPS 140-2 validated cryptographic module	Yes	
Used as (if applicable):		
Precinct counting device	Yes	DS200, ExpressTouch, ExpressVote HW2.1, ExpressVote XL
Central counting device	Yes	DS450 and/or DS850

Baseline Certification Engineering Change Order's (ECO)

There are not any ECO's certified with the voting system.

ATTACHMENT D – MANDATORY QUESTIONS

VOTER-HANDLED PAPER BALLOT VERIFICATION.

0-2 EXAMPLE BALLOTS

Voter-Handled Paper Ballot Verification.

The proposed SVS solution must provide a voter verifiable paper ballot for every vote cast. The proposed SVS must produce a physical, voter-handled ballot containing the voter's selections from the input made by the voter. It must also facilitate navigating, marking, and reviewing the displayed ballot on the Ballot Marking Device (BMD) that can be printed, scanned, imaged, and tabulated by the Polling Place Scanner (PPS) and Central Scanning Device (CSD). Provide example BMD and Absentee by Mail ballots created by the proposed SVS.

ES&S RESPONSE

The ES&S system provides a voter verified paper ballot for every vote cast.

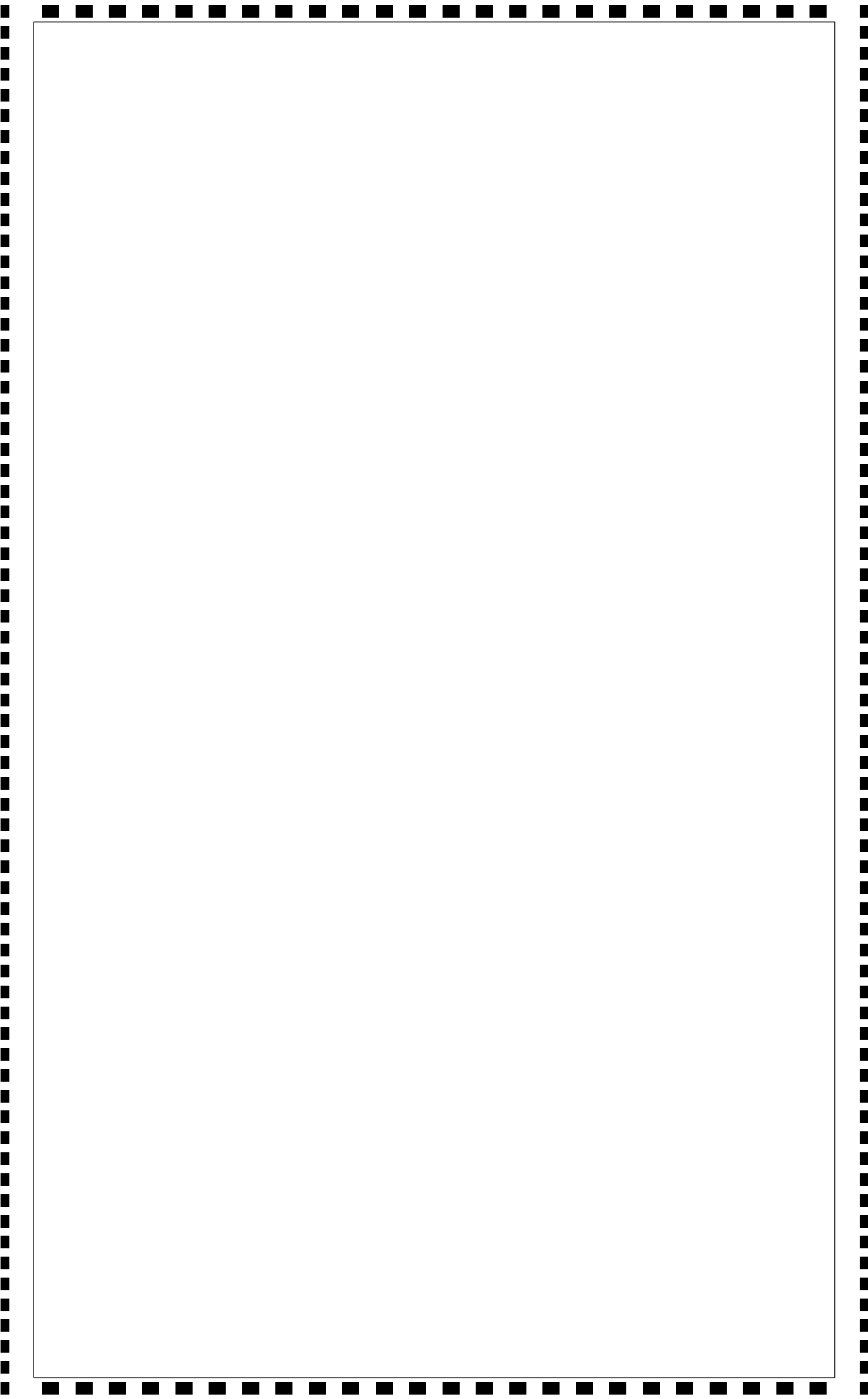
EXPRESSVOTE BALLOT MARKING DEVICE

The ExpressVote marks and prints a vote summary card upon completion of the voting session. The vote summary card is printed from an integral printer inside the ExpressVote unit.

After the vote summary card (ballot) is printed, the voter can re-insert the vote summary card into the ExpressVote. The ExpressVote unit will then display the voter's selections on the touchscreen and read the selections via the audio format. The voter could also verify their selections via the audio ballot before printing the vote summary card.

The printed vote summary card serves as the VVPAT. After it is re-inserted into the ExpressVote, it can be read back to the voter.

Please see the included sample ExpressVote and Absentee by Mail ballots.



SAMPLE COUNTY/GEORGIA
SAMPLE ELECTION
11/03/2020
PRECINCT 1, PRECINCT 1



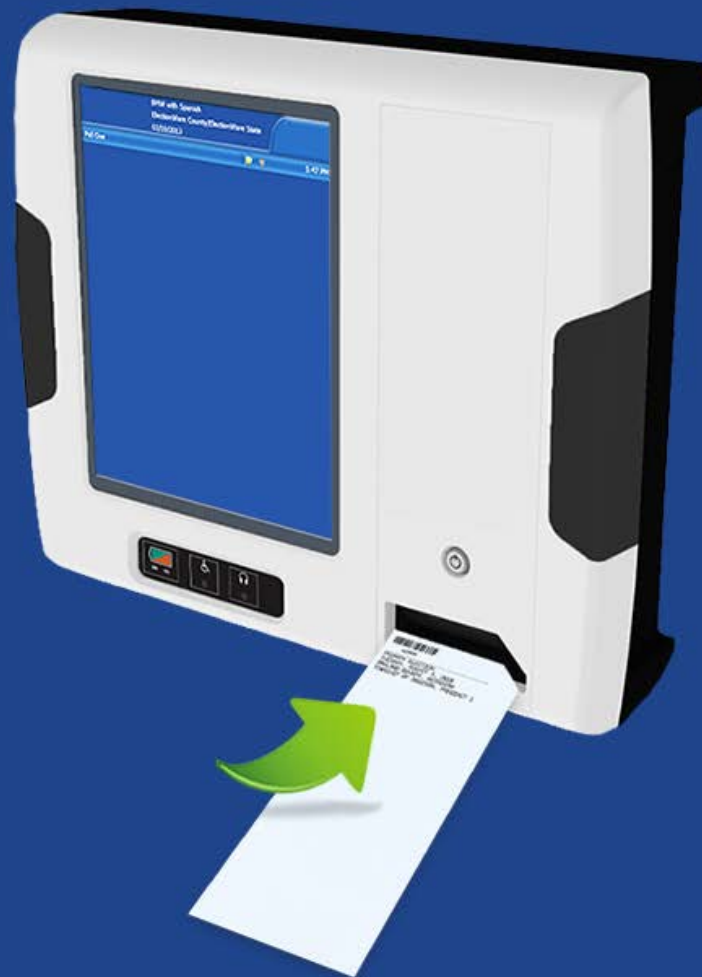
PRESIDENT OF THE US	REP SAMPLE CANDIDATE
US SENATE	REP SAMPLE CANDIDATE
PUBLIC SERVICE COMMISSIONER	DEM SAMPLE CANDIDATE
STATE SENATOR 30TH DISTRICT	REP SAMPLE CANDIDATE
CLERK OF SUPERIOR COURT	DEM SAMPLE CANDIDATE
COUNTY COMM CHAIRMAN	REP SAMPLE CANDIDATE
PROP 1	YES
PROP 2	YES

Sample Election
Sample County
11/3/2020


PRECINCT 1

11:09 AM

To begin voting, insert your card.





Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:10 AM


For President of the United States
(Vote for One)


**SAMPLE CANDIDATE - President**
SAMPLE CANDIDATE - Vice President
Republican


**SAMPLE CANDIDATE - President**
SAMPLE CANDIDATE - Vice President
Democrat


**SAMPLE CANDIDATE - President**
SAMPLE CANDIDATE - Vice President
Libertarian

Write-in:



Zoom


Exit


Contrast


Next


Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:11 AM


For United States Senate
(Vote for One)


 **SAMPLE CANDIDATE**
(Incumbent) Republican


 **SAMPLE CANDIDATE**
Democrat


 **SAMPLE CANDIDATE**
Libertarian


 Write-in:

 Previous


 Zoom

 Exit

 Contrast


Next 


Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:11 AM


For Public Service Commissioner
(Vote for One)


 **SAMPLE CANDIDATE**
(Incumbent) Democrat


 **SAMPLE CANDIDATE**
Libertarian


 Write-in:

 Previous


 Zoom

 Exit

 Contrast


Next 


Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:12 AM


For State Senator From 30th District
(Vote for One)


 **SAMPLE CANDIDATE**
(Incumbent) Republican


 Write-in:

 Previous


 Zoom

 Exit

 Contrast


Next 


Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:12 AM


For Clerk of Superior Court
(Vote for One)


 **SAMPLE CANDIDATE**
(Incumbent) Democrat


 Write-in:

 Previous


 Zoom

 Exit

 Contrast


Next 


Sample Election
Sample County
11/3/2020



Help


PRECINCT 111:13 AM


For County Commission Chairman
(Vote for One)


 **SAMPLE CANDIDATE**
Republican


 **SAMPLE CANDIDATE**
Democrat


 Write-in:

 Previous


 Zoom

 Exit

 Contrast

Next 

Sample Election
Sample County
11/3/2020


Help

PRECINCT 111:13 AM

PROPOSED CONSTITUTIONAL AMENDMENTS

- 1 -


Lorem ipsum et semper mauris pellentesque commodo eros vel interdum et, tempus donec aliquam nostra massa semper hefe.


Senate Resolution No. 1
Act No. 100
Ga. L. 1000, p. 1000


"Lorem ipum et semper mauris pellentesque commodo eros vel interdum et, tempus donec aliquam nostra massa semper bibendum id sollicitudin primis congue def?"


☐ YES


☐ NO

 Previous


 Zoom

 Exit

 Contrast

Next 

Sample Election
Sample County
11/3/2020


Help


PRECINCT 111:13 AM


- 2 -


Ipsum erat in neque commodo scelerisque lacinia inceptos dui himenaeos litora, sit erat vivamus habitasse maecena.


Senate Resolution No. 2
Act No. 200
Ga. L. 2000, p. 2000


"Isum erat in neque commodo scelerisque lacinia inceptos dui himenaeos litora, sit erat vivamus habitasse maecenas leo est ligula elit blandit quisque, nam fringilla massa in curae et hac pharetra himenaeos etiam sapien cubilia torquent maecenas quis vehicula a, orci dapibus ornare hac sed ornare, massa vel lorem euismod in per odio auctor cubilia ac dui rhoncus augue condimentum euismod cursus, et rutrum pretium et platea bibendum habitasse sollicitudin sagittis, himenaeos nec amet senectus primis quisque cubilia sapien suspendisse nibh auctor augue magna quam ad odio nulla augue bi"?


 YES


 NO

 Previous


 Zoom

 Exit


 Contrast

Next 

Sample Election
Sample County
11/3/2020



Help

PRECINCT 111:14 AM


**Verify Selections**

Page 1/2


Review your selections and then touch "Next". To make a change, touch the contest.

**For President of the United States
(Vote for One)**


Contest Not Fully Voted
• No Selection Made

**For Public Service Commissioner
(Vote for One)**

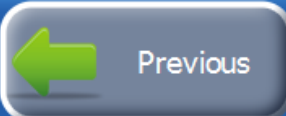
Contest Not Fully Voted
• No Selection Made


**For United States Senate
(Vote for One)**


Contest Not Fully Voted
• No Selection Made


**For State Senator From 30th District
(Vote for One)**

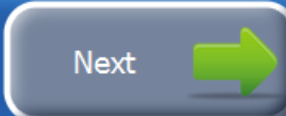
Contest Not Fully Voted
• No Selection Made

Previous



Zoom


Exit


Contrast


Next

Electronic Request for Proposals 47800-SOS0000037 Statewide Voting System




April 23, 2019
Page 10

Sample Election
Sample County
11/3/2020



Help

PRECINCT 111:14 AM


**Verify Selections**

Page 2/2


Review your selections and then touch "Next". To make a change, touch the contest.

**For Clerk of Superior Court
(Vote for One)**


Contest Not Fully Voted
• No Selection Made

**For County Commission
Chairman
(Vote for One)**

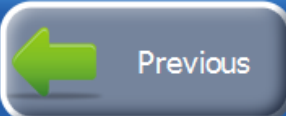
Contest Not Fully Voted
• No Selection Made


**PROPOSED CONSTITUTIONAL
AMENDMENTS
- 1 -**


Contest Not Fully Voted
• No Selection Made


**- 2 -**

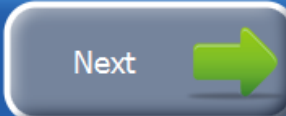
Contest Not Fully Voted
• No Selection Made

Previous



Zoom


Exit

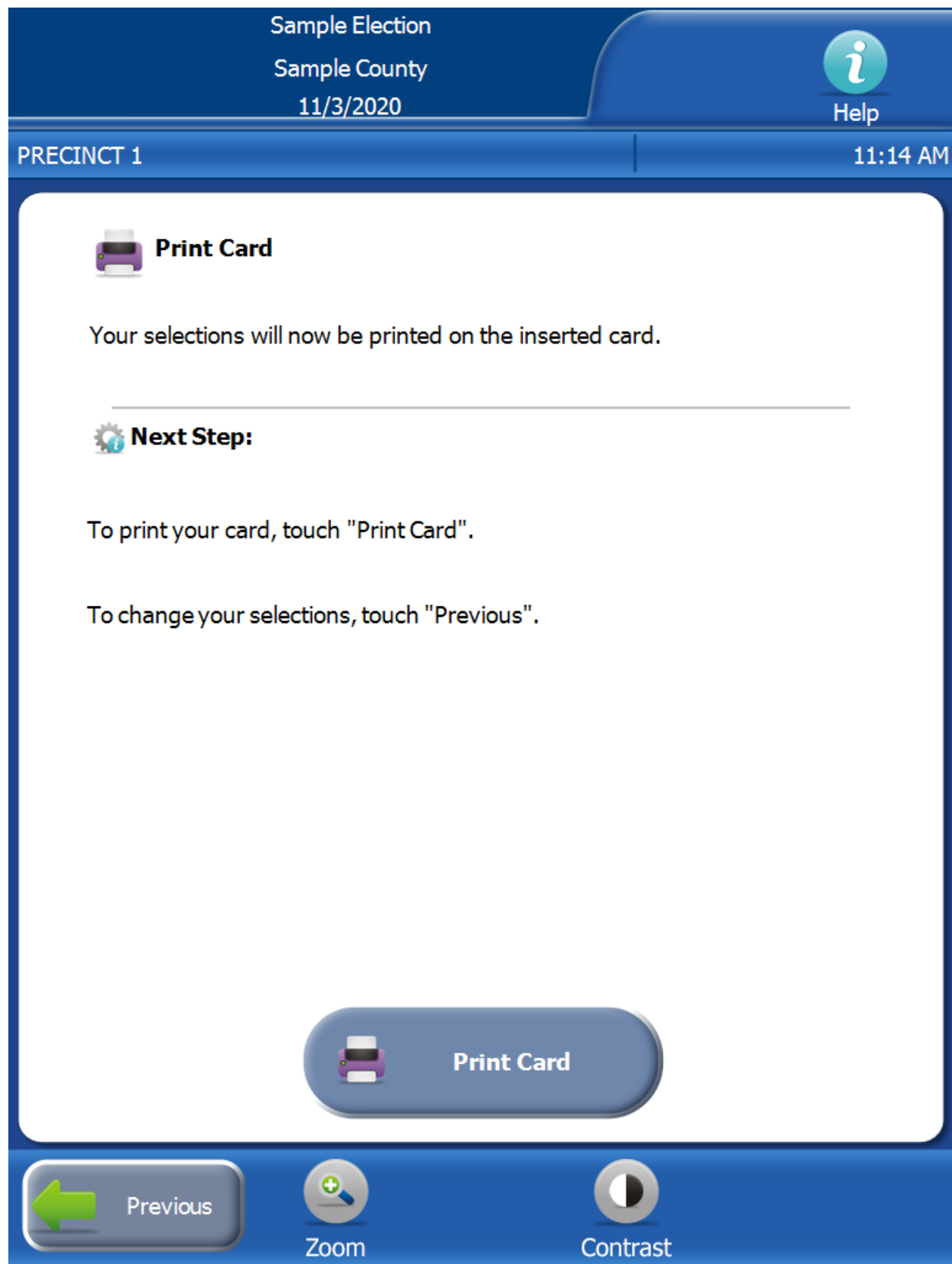

Contrast

Next

Electronic Request for Proposals 47800-
SOS0000037 Statewide Voting System



April 23, 2019
Page 11



Sample Election
Sample County
11/3/2020

PRECINCT 1

11:17 AM

Printing your card.

Please wait...



Sample Election
Sample County
11/3/2020

PRECINCT 1

11:15 AM

Returning card.

Please wait...



ATTACHMENT D – MANDATORY QUESTIONS

STATE LEVEL AND EPOLL DATASET-BUILDING AND REPORTING.

0-3 PROPOSED SVS

State Level and EPoll Dataset-Building and Reporting.

Supplier must propose a SVS solution that includes:

- *State level ballot building (EMS)*
- *EPoll data set building and reporting (EPDMS),*
- *Electronic Poll Books (EPoll),*
- *Ballot Marking Devices (BMD),*
- *Polling Place Scanners (PPS),*
- *Central Scanning Devices (CSD),*
- *Consumables,*
- *and Peripherals*

Provide the name and configuration of the product(s), product descriptions, and quantity proposed to be provided in the SVS (do not include cost).

ES&S RESPONSE

ES&S agrees and will comply. Our proposed system includes all the above items. Please see the included **Executive Summary** for names, configuration, product descriptions and quantity proposed to be provided.

EXECUTIVE SUMMARY

ENHANCING THE VOTING EXPERIENCE FOR THE STATE OF GEORGIA

Election Systems & Software, LLC (ES&S) is honored to have this opportunity to present the State of Georgia with our proposal for a new, modern voting system.

The State of Georgia is a pioneer of elections in the U.S. and is highly respected for its commitment to local county election administrators and ensuring elections are secure and accurate across the state.

To successfully implement and maintain new end-to-end voting technology statewide, Georgia needs an experienced elections partner with a proven track record of responsive service and quality products. Our outstanding technology, service and support make ES&S the ideal partner for Georgia.

UNDERSTANDING GEORGIA'S NEEDS



ES&S knows the State of Georgia. There is no other company in business today that has more knowledge and first-hand experience with the State's elections than ES&S. Our Georgia-dedicated team is made up of native Georgians who are lifelong residents, and who have voted and supported elections in the state for more than 20 years. Our team stands ready to transition the state to a fully-integrated voting system that embraces the high-level standards Georgia expects.

Transitioning to our proposed system will enhance the entire voting experience for your voters, poll workers and election staff. Moreover, you will continue to enjoy the level of support and service you deserve. Our more than 500 employees allow us to develop, enhance and maintain the most relevant, easy-to-use and dependable equipment and software available for elections.

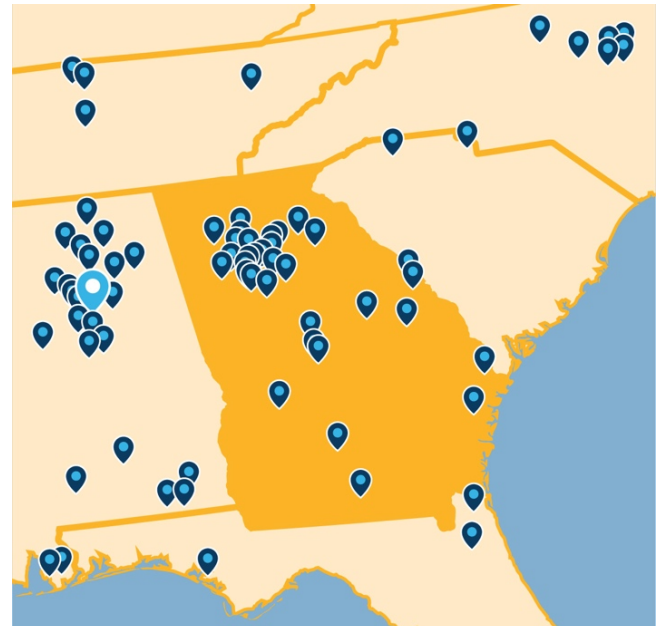
Working with ES&S will ensure a smooth implementation — we understand and know how to serve the election process in Georgia.

WHAT THE STATE OF GEORGIA CAN EXPECT FROM ES&S

ES&S has been privileged to be the election hardware, software and services provider to counties across the State of Georgia for nearly a decade. With over 50 full- and part-time support personnel in the state, ES&S' local network of experienced and dedicated election professionals is unmatched.

We pride ourselves on providing secure election equipment that fits ALL voters. Our system for Georgia includes paper-based voting equipment with robust audit support, as well as numerous positive enhancements that improve the ease of use for poll workers and deliver on the highest security standards.

Our system is not only reliable; it is uniquely scalable—when it comes to election systems, we know one size doesn't always fit all. Our proposed system includes flexible, personalized options for every county in Georgia, from Fannin to Fulton, while maintaining a unified system across the state.



LONGEVITY AND STRENGTH

ES&S is the largest and most experienced elections-only company in the world and has provided voting systems for over 40 years.

- ✓ ES&S has installed more than 200,000 voting units in its history
- ✓ ES&S has supported more than 100,000 elections during the past decade alone

ES&S entered the elections industry when the development of the optical mark reader technology was in its infancy. We were also the first company to develop solutions that enable people with disabilities to vote privately and independently.



No other elections-only company can compare to the financial stability and customer base of American owned and operated ES&S. Not only do we work with many of the same customers we've served for more than four decades, our business has also grown to serve 42 states and to include more than 3,300 customers. From our humble beginnings supporting a handful of election administrators and voters in 1979 to today when nearly 100 million registered voters tabulate with ES&S—you can be assured we will be here to support you now and well into the future.

ES&S serves

42 states

and more than

3,300 counties

15

**State-wide voting
system customers**

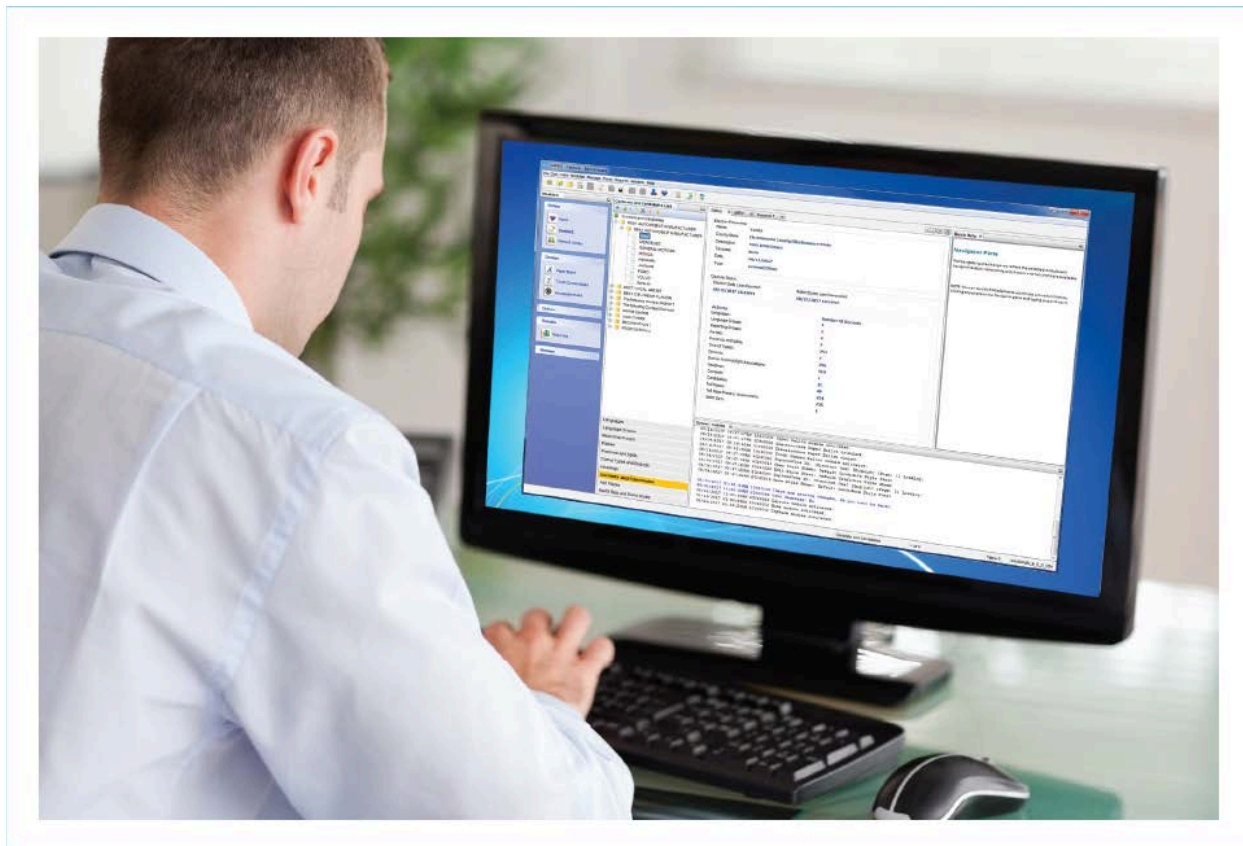
ES&S provides secure election systems and our gold-standard service to jurisdictions ranging in size from small county governments to state boards of elections. ES&S completed successful statewide voting system installations in **Alabama, Arkansas, Delaware, Maryland, Maine, Montana, Nebraska, North Carolina, North Dakota, Rhode Island, South Carolina, South Dakota, Utah** (*two counties remaining*), and West Virginia.

Managing an election is a great responsibility. ES&S will be your partner and will work passionately to make sure every election you run is a success.

THE ES&S SOLUTION

Electionware®

ELECTION MANAGEMENT SYSTEM



ES&S' Electionware® election management system (EMS) is a fully integrated software application that allows Georgia jurisdictions of all sizes to securely manage their elections through the software's intuitive, easy-to-understand, user-friendly interface.

Electionware is a fully integrated election management software application that will allow the State of Georgia to complete election management tasks through a uniform user experience.

It has a powerful and intuitive interface and a single, common relational database.

With Electionware, users can:

- Create the election information database
- Format ballots
- Program ballot scanning equipment
- Create voice files
- Count ballots
- Generate results reports

Electionware Key Features & Benefits

Efficiencies.

Electionware eliminates wasted effort on unnecessary tasks —resulting in faster ballot creation and layout, and faster election programming. Electionware’s single database ensures consistency across ballots and machine programming.

Ease of Use.

Electionware is easy to master because its features and actions are logically organized based on election workflow and an integrated database. The design accommodates the latest in election trends, including early and overseas voting, ADA compliance, ballot adjudication and Election Night reporting.

Security.

To protect your election data, Electionware incorporates the latest in security best-practices, including built-in heightened audit controls and change management processes. Each Electionware user is easily assigned personal login credentials and level of access. Electionware maintains a detailed audit record of all actions and events, along with the username and timestamp, that occur on the unit, including log-in attempts, election definition, ballot preparation and results processing.

Single User Interface.

Personalized based on jurisdictional needs, the Electionware dashboard provides access to five software groups—each one representing a stage of the election creation process:



Stepping through each module allows the user to proceed with election creation ensuring key steps are managed systematically. These powerful capabilities enable election administrators to create error-free elections in less time.

Help System.

Electionware contains an interactive, comprehensive help system that empowers election administrators to find answers to common questions easily.

Election Results Reporting.

Electionware’s Results software includes the Reporting module that generates paper and electronic reports for election officials, candidates and the media. Reporting enables the user to read data from the tabulators, customize report formats, and accumulate accurate election results.

PROPOSED QUANTITY FOR GEORGIA:

One Electionware ballot building license for the state, **159** reporting with media burn licenses for the counties.

ExpressVote®

UNIVERSAL VOTING SYSTEM



The ExpressVote® Universal Voting System combines paper-based voting with touch-screen technology **to create a breakthrough in voting solutions.**

Voters use the touch screen to mark their vote selections, receiving a verifiable paper vote record upon completion. The ExpressVote is used during early voting and on Election Day to serve every eligible voter, including those with special needs. During disability testing campaigns and in live elections nationally, the ExpressVote continues to dominate the competitors' systems, earning high praise and appreciation.



The ExpressVote is the election industry's No. 1 selling early voting and Election Day solution

EXPRESSVOTE KEY FEATURES & BENEFITS

Ease of use and setup.

The intuitive design offers easy-to-follow instructions for election officials, poll workers and voters. There is no complicated technology to manage or program. The ExpressVote is easy for poll workers to open and close in four simple steps. The unit's small size and light weight make it easy to transport and store.

Interactive touch screen.

Voters touch a **15-inch touch screen** to mark their selections and review a summary of their selections. If the voter wants to change his or her vote, they can do so at that time. The ExpressVote notifies voters of overvotes and undervotes with on-screen prompts and feedback.

Security controls.

The ExpressVote uses a variety of functions to ensure election data is secure. Physical security including tamper-evident devices secure the unit and alert election officials of unauthorized access. The operating software requires security access codes for system access during equipment preparation, testing and operation. These safeguards cannot be bypassed or deactivated during system installation or operation, maintaining the integrity of the election data and audit record. The ExpressVote generates a detailed, time-stamped audit record every action and event, including access attempts, access of system functions and errors that occurred on the unit.

Controlled and reduced costs.

The ExpressVote uses an internal thermal printer to print vote selections, eliminating the need to replace costly consumables like ink, toner or drums. Unused cards can be used in future elections, which eliminates waste. Reducing the need and expense for pre-printed paper ballots cuts traditional ballot printing costs significantly. ExpressVote makes budgeting for recurring expenses easy and accurate.

Verifiable paper record.

After all selections are verified on the touch screen; the unit produces a paper vote summary card that provides voters another

opportunity to review their selections and verify that their

vote was recorded accurately before submitting for tabulation. The vote summary card also serves as an audit trail for election officials.

Accessibility compliant.

The ExpressVote can serve every eligible voter across the State of Georgia, including those with disabilities. As a fully compliant Americans with Disabilities Act (ADA) voting solution, the ExpressVote provides each voter accessibility and independence. The unit easily accommodates ADA voting solutions such as headphones, sip-and-puff device, two-position rocker switch and audio-tactile keypad.

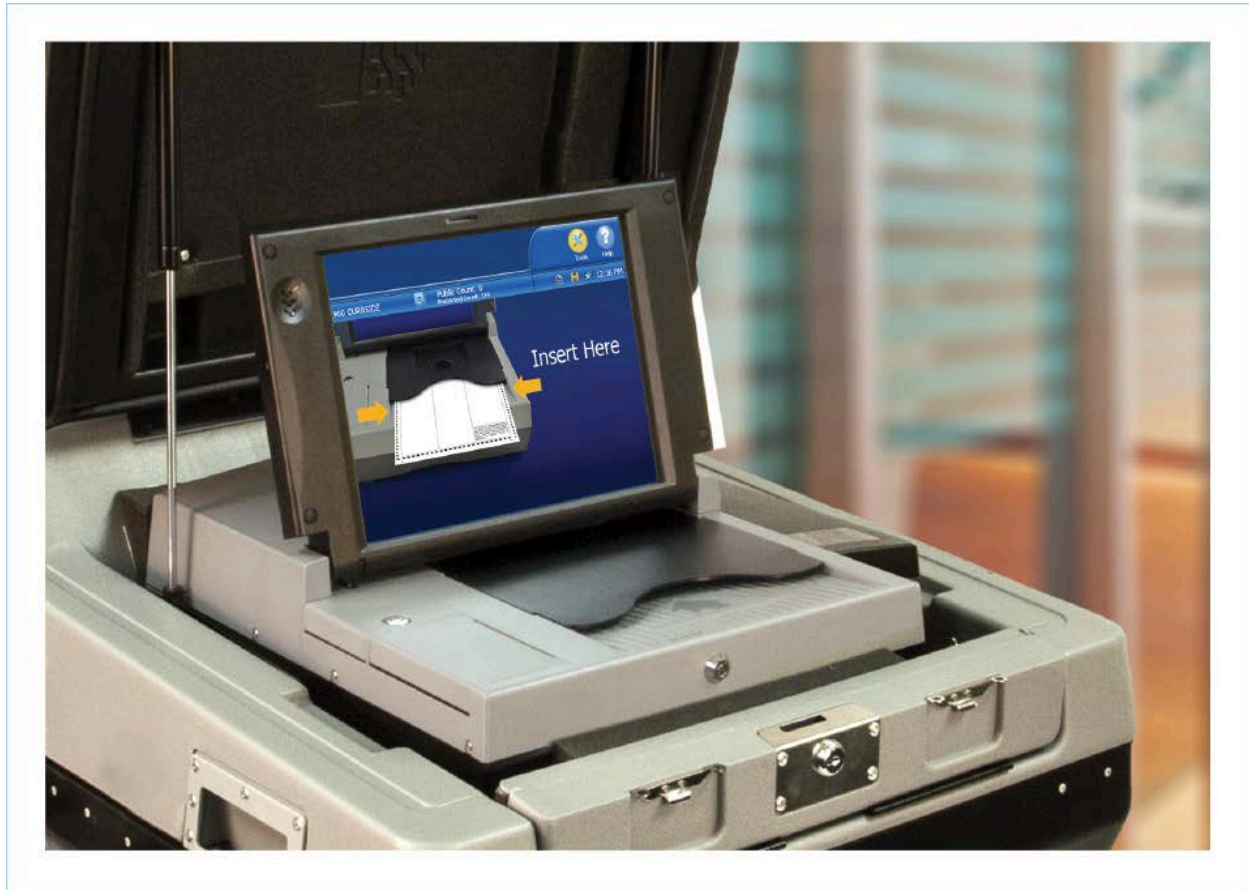


PROPOSED QUANTITY FOR GEORGIA:

30,050 ExpressVote units statewide

DS200®

PRECINCT SCANNER AND TABULATOR



The DS200® precinct digital scanner and tabulator combines the flexibility and efficiency of digital-imaging technology to support paper-based voting—taking traditional optical-scan ballot vote tabulation into the twenty-first century.

Precise ballot sensors simultaneously scan both sides of a ballot in high resolution. As a result, cast vote records and ballot images can be stored on memory devices and reviewed, as needed, on a standard PC. The DS200 is designed with flexibility to support a wide range of ballot configurations and designs.

More than
50,000

**DS200 tabulators
are in use today**

DS200 KEY FEATURES & BENEFITS

Ease of use and set up.

The DS200 tabulator was designed for easy setup. A lid-up, power-on approach allows poll workers to easily open polls. The closing process is as simple as touching a button and locking the lid closed.

Large interactive touch screen.

The DS200 features an interactive 12-inch LCD color touch screen that provides immediate messages and prompts (both visual and auditory) to assist workers and voters. During voting, situations that require voter or poll-worker interaction are displayed clearly in plain text on the unit's touch screen.

Patented technology.

The DS200 uses ES&S-patented Intelligent Mark Recognition (IMR™) and Positive Target Recognition and Alignment Compensation (PTRAC®) software to ensure poorly marked ballots are read accurately and consistently—protecting voter intent. This precision improves the reliability of elections. The DS200 can be set to query voters about overvotes, undervotes, blank ballots and other situations.

Second-chance voting.

The DS200 drastically reduces invalid ballots by detecting and identifying blank, overvoted and undervoted ballots. The unit's ballot review functions ensure that every ballot represents the voters' intent.

Secure tabulation.

The DS200's operating system controls, limits and detects unauthorized access to all critical data, and includes safeguards, such as secure transmission channels, data encryption and digital signatures that help protect sensitive data and verify authenticity, including certification of all firmware. The DS200 will only accept certified and approved USB flash drives that contain encrypted data sealed with the correct, FIPS-compliant, signed data key. The unit generates a detailed timestamped audit record of all actions and events that occurred on the unit, including access attempts, access of system functions and errors.

Internal battery backup.

The DS200 has a built-in internal battery backup designed to meet the EAC 1.0 VVSG certification standards. No external UPS (universal power supply) or separate charging device is necessary. When plugged in, the DS200 battery charges automatically.

Integrated thermal printer.

In response to customer input, the DS200 tabulator's printer eliminates the need for a paper spool. Once a roll has been expended, simply remove the used plastic core and drop in a new roll of thermal paper – it's that easy.



PROPOSED QUANTITY FOR GEORGIA:

3,500 DS200 units as precinct scanner and 149 DS200 units as central scanner.

DS850[®] and DS450[®]

CENTRAL SCANNER AND TABULATORS



Customizable sorting is now more affordable than ever with the DS850[®] high-speed and DS450[®] high-throughput central scanner and tabulators. The DS850 and DS450 do not stop for overvotes, write-ins or blank ballots. These scanner and tabulators use our patented technology, which increases the accuracy of tabulation and reduces manual adjudication time.

The DS850 and DS450 are tailor-made solutions for counties that process higher volumes of absentee ballots. The units' durability eliminates the need to reinvest in equipment over the standard lifespan of election systems, maintaining affordability for all.

DS850/DS450: KEY FEATURES & BENEFITS

Recounts.

In case of a recount, the DS850/DS450 can be used to rapidly perform a recount of paper ballots and vote summary cards. Electionware can restrict the election definition to a subset of contests or precincts specified for a specific recount.

Ease of use.

The DS850/DS450 features a user-friendly software interface on an easy-to-use 15-inch LCD color touch screen display. Simply place a stack of ballots in the feed hopper and press start. The DS850/DS450 will scan, tabulate and sort the ballots without any further interaction by the operator.

Flexibility.

The DS850/DS450 offers three separate sorting bins that enable counties to sort specific types of ballots. Which ballots are sent to three separate sorting bins can be customized. The DS850/DS450 can separate ballots for a variety of reasons, like write-in votes, over-votes or blank ballots, without losing speed.

Accuracy.

ES&S' patented image recognition technology ensures ballots are read accurately and consistently, protecting voter intent and eliminating manual adjudication time. The DS450 recognizes common voter marks and is not fooled by stray marks or smudges.

Speed.

Troublesome folded ballots are no longer difficult to handle with the DS450 tabulator's TruGrip technology. The DS450 can scan, tabulate, adjudicate and sort ballots at the rate of 90 ballots per minute, eliminating the need to hand-feed ballots one-by-one. The DS850 is the only high-speed vote scanner in the marketplace that can sort various ballot sizes at full speed. It scans and sorts 14-inch double-sided ballots at 300 per minute into three output trays, separating ballots into three categories: counted, requires further review, and write-ins. The DS850 adjudicates at approximately three times the speed of competing devices. The DS850 is also able to sort ballots for manual recounts.

DS450
90
ballots
per minute

DS850
300
ballots
per minute

Mail ballot processing.

The DS850/DS450 was designed for mail-ballot processing. The speed, ease of use and ability to process folded ballots make it ideal for rapidly and accurately processing mailed-in ballots.

Folded ballot processing.

The DS850/DS450 was designed with a series of patent-pending TruGrip™ composite rollers that apply constant pressure to folded ballots throughout the entire tabulating process without losing speed.

PROPOSED QUANTITY FOR GEORGIA:

4 DS850 units, for use in Cobb, Dekalb, Gwinnett, and Fulton counties.

12 DS450 units, for use in Bibb, Chatham, Cherokee, Clayton, Columbia, Forsyth, Hall, Henry, Houston, Muscogee, Paulding and Richmond counties.

ExpressPoll®

ELECTRONIC POLLBOOK



ES&S is excited to present the NEXT GENERATION of the ExpressPoll electronic pollbook!

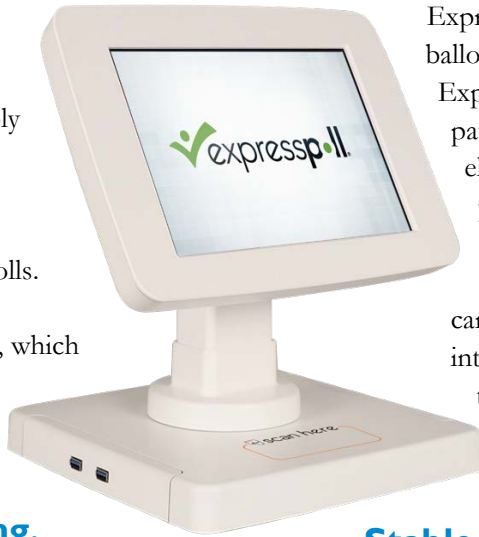
The ExpressPoll gives poll workers a simple-to-operate device that reduces check-in and verification waiting time for voter, increases the accuracy of voters' personal information and improves the Election Day experience for all.

**Fast check-in and
accurate ballot styles
with the ExpressPoll**

EXPRESSPOLL KEY FEATURES & BENEFITS

Easy Election Day setup.

The ExpressPoll stand was developed to make Election Day setup quick and easy. Our fully integrated stand can be set up in seconds—simply remove the stand from the case and connect to a power supply. The 10-inch touch-screen tablet, barcode reader, external USB ports and power supply are fully integrated, eliminating the need to assemble or connect any components to open the polls. The Surface Go tablet also includes an internal battery, which provides up to 9 hours of battery backup to the tablet and the stand.



Automated, accurate ballot style delivery.

The ExpressPoll electronic pollbook interfaces directly with the ExpressVote. When used with the ExpressVote Activation Card printer, the ExpressPoll automatically prints the correct ballot style barcode for each voter on the ExpressVote card/paper ballot. This patented, automated process virtually eliminates the risk of a poll worker providing an incorrect ballot style to a voter. Printing each voter's correct ballot style bar code directly onto the card/paper ballot, which the voter inserts into the ExpressVote unit, also eliminates the need for the use of a separate piece of paper containing each voter's ballot style barcode.

Tablet data loading.

Provides for a one-step secure tablet data loading process for all ballot styles and screen information. Users can load precinct, county or statewide voter lists to each tablet in a matter of seconds.

Detailed audit trail.

The ExpressPoll system maintains a complete transaction audit log with a record of all ballots issued including information about the pollbook user who completed each task, providing enhanced security and poll worker accountability.

Stable operating system.

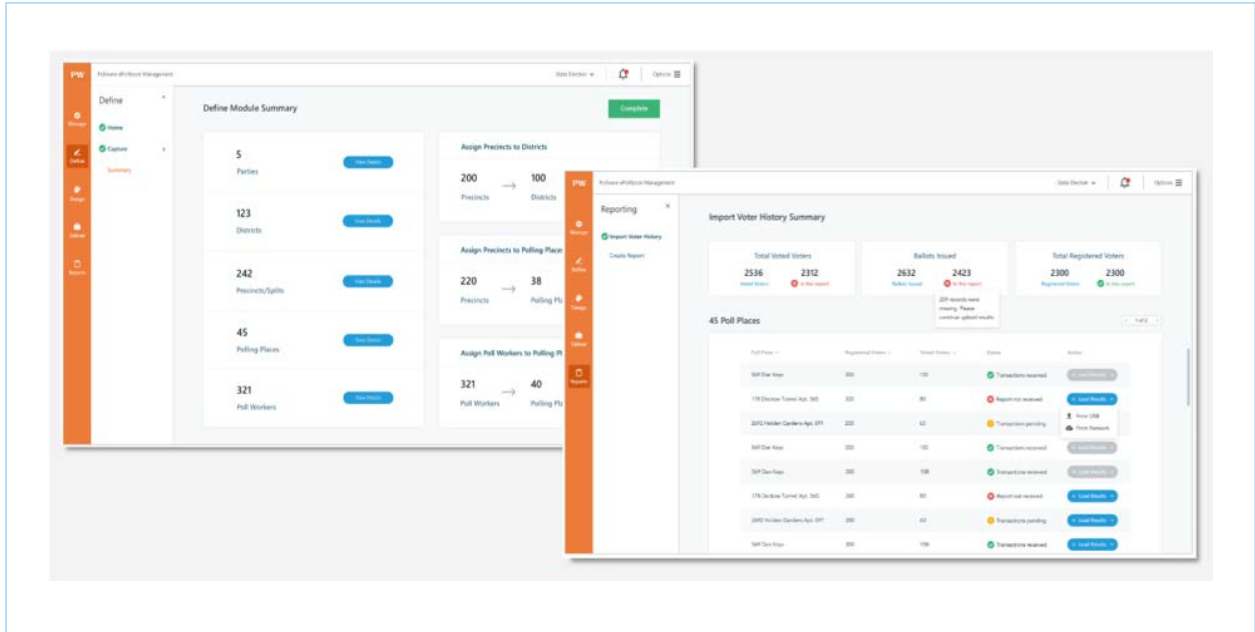
Utilizing the Windows 10 operating system means your electronic pollbooks will remain up-to-date and secure for years to come. Microsoft has provided a product roadmap committing to all customers that the Windows 10 operating system will be supported with security updates through at least October 2026.

PROPOSED QUANTITY FOR GEORGIA:

8,000 ExpressPoll units statewide

Pollware

POLL MANAGEMENT SOFTWARE



Pollware is our fully integrated poll data management software solution that allows for secure and streamlined conversion of voter-registration data into electronic pollbook data files.

Jurisdictions—either at the State or County level—will be able to use Pollware software to:

- Convert voter registration data into electronic pollbook files
- Customize the workflow based on voter status
- Determine how ballots are issued from the pollbook
- Assign and track equipment and data by poll location
- Generate post-election reports and voter-history exports for the Voter Registration system

Pollware Key Features & Benefits

Data Control.

Using the Pollware software, users can accurately and securely convert their voter registration data into electronic poll data files for use on the ExpressPoll units. Workflow options and pollbook configurations can easily be modified from election to election, allowing users to customize the ExpressPoll experience to meet their specific election and jurisdictional requirements.

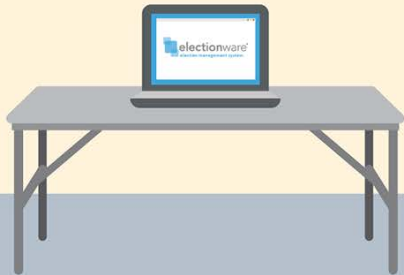
Equipment oversight.

Pollware allows users to assign ExpressPoll tablets to a specific location based on the serial number, ensuring complete control and security of your equipment and voter data.

PROPOSED QUANTITY FOR GEORGIA:

One Pollware license for state-level conversion services

THE ES&S SOLUTION AT AN ELECTION OFFICE



EMS
Electionware



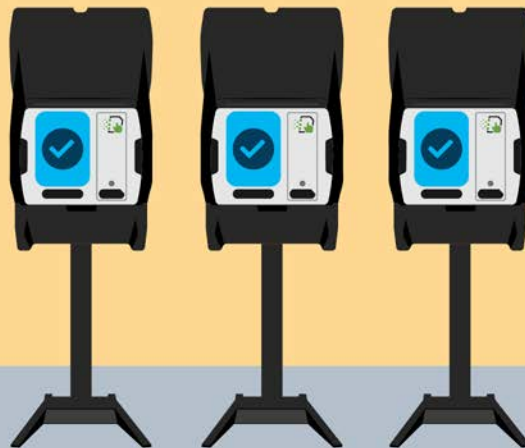
CENTRAL COUNT
DS200 (shown), DS450 (shown), or DS850

*Only one central count scanner is needed, based on county size.

THE ES&S SOLUTION AT A POLLING PLACE



VOTER SIGN-IN
ExpressPoll and ExpressVote Printer (optional)



BALLOT MARKING
ExpressVote as a Marker



TABULATION
DS200

WHY ES&S?

WHY SHOULD THE STATE OF GEORGIA CHOOSE ES&S?

ES&S brings the State of Georgia secure, proven and economical solutions that will be implemented, serviced and supported by the election industry's most experienced and knowledgeable team.

Our Georgia-dedicated team knows and understands elections in the Peach State like no other. Above all, we offer the State a promise of ongoing outstanding support and customer service. The State of Georgia will reap the rewards of working with a company that provides:



Proven, financial stability. The State of Georgia has the peace of mind and security of knowing that ES&S is the most experienced, financially sound elections company. **With 40 years of elections experience and more than 500 employees**, ES&S is well-positioned to support election systems in the State of Georgia for years to come.



High-value solutions. ES&S provides Georgia the most cost-effective, efficient, low-risk options available. By selecting ES&S, State election officials are providing Georgia the confidence that its investment is sound and its systems will be sustained by one company for at least 15 years.



Truly universal voting systems. The ExpressVote Universal Voting System not only wins accolades from disability advocacy groups but also provides **auditability and touch-screen voting for all voters**.



Secure and accurate tabulation systems. Our digital tabulating equipment is both **accurate and secure**. With our unique patents, ES&S image recognition technology ensures ballots are read accurately and consistently, protecting voter intent and eliminating manual adjudication time.



Proven implementation and in-state service and support.

With over 200,000 system implementations across the country, no other vendor can compete with ES&S voting equipment implementation and support plans.

SUMMARY

The ES&S solution will provide the State of Georgia with a reliable, cost-effective, modern voting system that will continue to meet the needs of Georgia voters well into the future.

Staff and poll workers will find our equipment easy to move and set up on Election Day and convenient to store and maintain when the election is over. And, as always, our team of local customer-service and technical-support experts will work passionately with state and local election officials to ensure a successful implementation.

Thank you for the opportunity to present this information. We look forward to future successes as we continue to provide the State of Georgia with unparalleled election technology, service and support.



ATTACHMENT D – MANDATORY QUESTIONS

ORGANIZATIONAL STRUCTURE/CVS

0-4 ORG STRUCTURE

Organizational Structure/CVs.

List key personnel including personnel that would supervise implementation of the proposed SVS and provide a CV or resume for each person uploaded as “Organizational Structure.”

ES&S RESPONSE

The proposed project team for Georgia will consist of the following key personnel:

- ✓ Jeb Cameron, Contractor Relationship Manager
- ✓ Mac Beeson, VP Central Region Sales
- ✓ Linda Bennett, VP, Account Management East
- ✓ Guy Riner, Regional Account Manager
- ✓ Holly Richardson, Project Manager, Account Management
- ✓ Kim Carlisle, Lead Account Manager
- ✓ Staci Jackson, Account Manager
- ✓ Lee Headspeth, Account Manager
- ✓ Angie Butler, Operations Training and Resource Planning Manager
- ✓ Derek Simmons, Regional Manager, Field Service
- ✓ Three (3) ballot builders

Please see the below organizational structure and included resumes for the key personnel.

ATTACHMENT D – MANDATORY QUESTIONS

LITIGATION AND DEFAULT.

0-5 LITIGATION AND DEFAULT

Litigation and Default.

List all litigation, contract breaches, and events of default you have been a party to in the past ten years on the attached form titled "Litigation and Default."

ES&S RESPONSE

Please see included **Attachment G – Litigation and Default.**



ATTACHMENT G LITIGATION AND DEFAULT

List all litigation, contract breaches, and events of default you have been a party to in the past ten years.					
REF #	PARTY NAME	DATE	LITIGATION	CONTRACT BREACHES	DEFAULTS
1	Election Systems & Software, LLC and Dominion Voting Systems, Inc v. Wisconsin Elections Commission. State of Wisconsin – Circuit Court of Dane County; Case 2018CV972. On February 1, 2019, ES&S filed a Petition on Appeal against the Wisconsin Elections Commission, respecting the Commission's previous ruling regarding confidentiality requirements in conjunction with a review of proprietary and trade secret software source code by Jill Stein, 2016 Green Party presidential candidate. The appeal is currently pending review by the Court.	2/1/2019	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
2	Election Systems & Software, LLC v. Smartmatic USA Corporation. United States District Court for the District of Delaware; Case 1:18-cv-01259-UNA. On August 17, 2018, ES&S filed suit against Smartmatic, alleging infringement of ES&S Patent Nos. 7,753,273 and 8,096,471. The case is in the early stages of litigation and ES&S intends to fully prosecute its claims against Smartmatic.	8/17/2018	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
3	Election Systems & Software, LLC v. Unisyn Voting Solutions, Inc. United States District Court Southern District of California; Case No. 18-CV-910-AJB (WVG). On May 10, 2018, ES&S filed suit against Unisyn, alleging infringement of ES&S Patent No. 7,753,273. The parties entered into a confidential Settlement Agreement on November 21, 2018.	5/10/2018	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
4	Election Systems & Software, LLC v. Dominion Voting Systems, Inc. United States District Court for the District of Delaware; Case 1:17-cv-01172-UNA. On August 21, 2017, ES&S filed suit against Dominion, alleging infringement of ES&S Patent No. 8,991,701. The parties entered into a confidential Settlement Agreement on June 11, 2018.	8/21/2017	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
5	Voter Verified, Inc. v. Election Systems & Software, LLC; Northern District of Florida Gainesville Division. Voter Verified Inc. filed a patent infringement suit against ES&S. This suit was identical to a previous suit which Voter Verified filed against ES&S in the Florida Middle Federal District Court and in which the Court ruled in favor of ES&S' motion for Summary Judgment on September 29, 2010 and affirmed by the Appeals Court on November 5, 2012. On March 21, 2017, the Northern District dismissed this suit for lack of patentable subject matter. Voter Verified subsequently filed a Notice of Appeal with the Federal Circuit. On April 20, 2018, the Federal Circuit denied Voter Verified's appeal and affirmed the Northern District of Florida's decision. Voter Verified filed a Petition for a Writ of Certiorari to the Supreme Court of the United States. ES&S will not file a response to the Petition and fully expects this Petition to be denied.	7/26/2016	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

6	Election Systems & Software, LLC and Hart Intercivic, Inc. v. Wayne W. Williams, Colorado Secretary of State; United States District Court for the District of Colorado; Case No. 1:16-cv-1237-JLK. On May 23, 2016, ES&S and Hart Intercivic, Inc. filed suit against Wayne W. Williams, in his official capacity as the Colorado Secretary of State, alleging that Mr. Williams violated the Federal Commerce Clause as well as violated Colorado law with respect to the certification and approval of voting systems for use in the State and requiring that all counties in Colorado purchase a single uniform voting system mandated by his office. ES&S and Hart sought a ruling by the court to allow not only ES&S and Hart's voting systems, but all other vendors voting systems, to be certified for use if they comply with Colorado law and allow all counties within the state to purchase a certified voting system of their choosing. ES&S and Hart filed a joint motion for a preliminary injunction, which motion was denied by the Court. Hart and ES&S chose not to appeal this decision nor further pursue this matter.	5/23/2016	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
7	Runbeck Election Services, Inc. v. Election Systems & Software, LLC; United States District Court; District of Arizona; Case No. CV-16-00087-PHX-JJT. On March 14, 2016, Runbeck filed suit against ES&S alleging breach of contract and infringement of certain patents. ES&S denied all claims brought by Runbeck and believes all claims were frivolous and without merit. The parties entered into a confidential Settlement Agreement on February 1, 2017, whereby Runbeck dismissed its claims with prejudice.	3/14/2016	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
8	Election Systems & Software, LLC v. Vigo County, Indiana; Vigo County Superior Court; Case No. 84D06-1409-PL-6772. ES&S filed this breach of contract action against Vigo County on September 2, 2014. The parties entered into a confidential Settlement Agreement on February 11, 2016 whereby the parties dismissed their claims against each other with prejudice.	9/2/2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
9	Election Systems & Software, LLC v. RBM Consulting, LLC; United States District Court for the District of Nebraska; Case No. 8:14-cv-257. ES&S filed this separate lawsuit against RBM alleging patent infringement, conversion, tortious interference with contract, and unfair competition. The lawsuit was filed August 29, 2014. The parties entered into a confidential Settlement Agreement on May 13, 2015 whereby ES&S dismissed its claims with prejudice.	8/29/2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
10	EVoter, Inc. ("EVoter") v. Election Systems & Software, LLC ("ES&S") and Michael Riddell; In the United States District Court for the Southern District of Florida; Case No. 0:14-cv-61253. EVoter filed suit against ES&S and Michael Riddell May 6, 2014, alleging that Michael Riddell breached his contract with EVoter and that both Mr. Riddell and ES&S misappropriated certain trade secrets of EVoter. ES&S successfully removed the case to federal court. ES&S denied all claims brought by EVoter and asserted that all claims were without merit and frivolous. The parties entered into a confidential Settlement Agreement on March 7, 2016 whereby the parties dismissed their claims against each other with prejudice.	5/6/2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
11	Integrated Voting Solutions, Inc. ("IVS") v. Election Systems & Software, LLC ("ES&S"); United States District Court for the Eastern District of California; Case No. 1:14-cv-35. On January 9, 2014, IVS filed suit against ES&S regarding the priority and use of ES&S' "INTEGRA-VOTE" trademark and IVS' purported use of "INTEGRATEVOTE" as a domain name and trademark. IVS also asserted certain antitrust claims against ES&S. ES&S has denied all allegations made by IVS and has also asserted counterclaims against IVS for trademark infringement, unfair competition, false designation of origin,	1/9/2014	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

	trademark dilution, and false advertising. The parties entered into a confidential Settlement Agreement on December 23, 2014 whereby the parties dismissed their claims against each other with prejudice.				
12	Election Systems & Software, LLC v. Integrated Voting Solutions, Inc., Jerry Wagoner, Krista Anderson and Brett Barrett; In the United States Superior Court of the State of Washington in and for the County of Snohomish; Case No. 13-2-021-142-9. ES&S filed a lawsuit on January 17, 2012 as amended on May 10, 2013 for declaratory relief, breach of contract, interference with its business relationships, and vicarious liability against IVS and former employees Jerry Wagoner, Krista Anderson and Brett Barrett. The parties entered into a confidential Settlement Agreement on December 23, 2014 whereby ES&S dismissed its claims with prejudice.	1/17/2012	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
13	Election Systems & Software, LLC v. RBM Consulting, LLC, and Gerald G. Hayek; United States District Court for the District of Nebraska; Case No. 8:11-cv-00438. On December 20, 2011, ES&S filed a lawsuit against RBM Consulting for copyright infringement, misappropriation of trade secrets, conversion, breach of contract, and violations of the Nebraska and Pennsylvania Deceptive Trade Practices Acts. RBM filed a counterclaim against ES&S alleging antitrust, tortious interference with contract, and related claims. On February 4, 2015, the Court granted RBM's motion for summary judgment on all ES&S' claims except for ES&S' claims of conversion and breach of contract. The parties entered into a confidential Settlement Agreement on May 13, 2015 whereby the parties dismissed their claims against each other with prejudice.	12/20/2011	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
14	Decision Support LLC. and Mr. David Watson v. Election Systems & Software, Inc. and Datacard Corporation; United States District Court for the Western District of North Carolina ; Civil Action No. 3:10-CV190. On April 21, 2010, Decision Support LLC filed a patent infringement claim against ES&S and Datacard Corporation. The parties entered into a confidential Settlement Agreement on January 17, 2013.	4/21/2010	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
15	United States of America, Department of Justice, Antitrust Division, et. al. vs. Election systems & Software, Inc., In the United States District Court for the District of Columbia. The U.S. Department of Justice, Antitrust Division ("DOJ") and certain State attorneys generals conducted an investigation of ES&S' acquisition of Premier Election Solutions, Inc. ("PES"). ES&S and the DOJ reached a confidential settlement agreement whereby ES&S sold certain of its PES intellectual property to Dominion Voting Systems, Inc. ("DVS"). As a result of ES&S' agreement with DVS, the DOJ entered a Final Judgment on June 30, 2010.	3/8/2010	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
16	Dominion Voting Systems Corporation v. The Board of Elections in the City of New York, New York State Board of Elections, New York State Office of General Services, Thomas DiNapoli, Comptroller of the State of New York, John C. Liu, New York City Comptroller and Elections Systems and Software, Inc.; Supreme Court of the State of New York County of Albany; Index No. 1126/10. Dominion Voting Systems ("DVS") filed a claim against the individuals named above as well as filed an amended complaint which included ES&S. The complaint alleged that the State of New York and the City of New York allegedly failed to follow its procurement laws in awarding the New York City voting systems purchase order to ES&S. On May 3, 2010, the Court dismissed DVS' claim on the merits.	2/18/2010	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
17	Voter Verified, Inc. v. Election Systems & Software, Inc.; Florida Middle Federal District Court, Orlando Florida; Case No. 6:09-CV-	12/17/2009	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

	1969-ORL-19-GJK. Voter Verified Inc. filed a patent infringement claim against ES&S. The Court ruled in favor of ES&S' motion for Summary Judgment on September 29, 2010 which was affirmed by the Appeals Court on November 5, 2012.				
18	Franklin Inventions v. Election Systems & Software, Inc., et al; United States District Court, Eastern District of Texas, Marshall Division; Case No. 2:09-CV-377. On December 4, 2009, Franklin Inventions Inc. filed a patent infringement claim against ES&S. The parties entered into a confidential Settlement Agreement on April 18, 2012	12/4/2009	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
19	Hart Intercivic, Inc. v. Diebold, Incorporated and Election Systems & Systems, Inc., C.A. No. 09-678-RBK, U.S. District Court, District of Delaware. Hart Intercivic, Inc. filed a complaint alleging anti-trust law violations in connection with Election Systems & Software's ("ES&S") acquisition of Premier Election Solutions, Inc. Hart voluntarily dismissed its claim without prejudice on June 18, 2010.	9/14/2009	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>
20	Audio Ballots of Arkansas, Inc. v. Election Systems and Software, Inc., Case No. 4-09-CV-0443BSM in the United States District Court, Eastern District of Arkansas, Western Division. Audio Ballots of Arkansas filed an anti-trust claim against ES&S. The parties entered into a confidential Settlement Agreement on July 7, 2011.	6/16/2009	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>

ATTACHMENT D – MANDATORY QUESTIONS

FINANCIALS.

0-6 FINANCIAL DOCS

Financials.

Provide evidence of financial health to include, if available, financial statements, financial institution agreements for inventory and production, balance sheets, profit and loss reports for the past three years, Dun and Bradstreet Business Credit Reports, and PAYDEX Score uploaded as "Financial Documentation."

ES&S RESPONSE

ES&S is the most experienced elections-only company in the country and has been delivering election equipment, software, and services for four decades. The company employs more than 500 election professionals located in eight (8) operating locations across the United States. Our team is composed of seasoned, highly skilled experts whose sole mission is to support our customers in the conduct of elections. ES&S has supported more than 100,000 binding elections in the last decade alone and prides itself as having a single focus of ensuring our customers' elections are safe, secure, and successful.

In addition to our substantial human resources, we have ample financial resources available to us to support an undertaking of this size. ES&S is no stranger to large scale installations and our success in this area time and again has enabled us to build a strong balance sheet – the strongest in the industry – and fortifies our ability to successfully deliver to the State of Georgia. Standing behind our balance sheet you will find:

- ✔ **Consistent ownership.** ES&S has enjoyed the same ownership since 1987 and this stability in ownership has allowed us to make financial and operational decisions that benefit both the company and our customers over the long term.
- ✔ **Strong Banking Relationship.** ES&S partners with Bank of America – one of the largest banks in the world – to support our growth. Bank of America's resources, experience and know-how has allowed ES&S to capitalize on numerous opportunities during our long and rewarding relationship.
- ✔ **Stable and Proven Supply Chain.** ES&S has no peer in the election space when it comes to the management of the supply chain. We have forged relationships with suppliers that date back to the 1990's and our stable of suppliers are some of the most capable in the world.
- ✔ **Large Performance Bond Capacity.** ES&S has been providing performance bonds for 2 decades and we have used the same surety for the last 15 years. We have a strong and trusted relationship with our surety that knows ES&S delivers on its promises, time and again.

ES&S is confident that, through the combination of unrivaled large jurisdiction experience, a strong balance sheet, and committed ownership, we will be uniquely positioned to maintain adequate financial strength throughout the duration of this project.

Please see the included audited financial statements for fiscal years 2016 to 2018.

ATTACHMENT D – MANDATORY QUESTIONS

REFERENCES.

0-7 REFERENCES

References.

Provide a list of current and past clients that have implemented a similar voting system solution to the proposed SVS on the form titled "References."

ES&S RESPONSE

ES&S is the largest elections-only company in the United States with 40 years of experience supporting the elections of 4,500 customers worldwide. We have supported more than 100,000 elections in the last decade alone. No other elections-only company can compare to the financial stability and customer base of American owned and operated ES&S. Not only do we work with many of the same customers we've served for more than four decades, our business has also grown to serve 42 states and to include more than 3,300 customers.

Please see **Attachment H – References.**



ATTACHMENT H

REFERENCES

Provide a list of current and past clients that demonstrate successful implementation of a similar voting system solution to the proposed SVS, including ones of a similar size and scope to this eRFP. Does the GASOS have your permission to contact any current, past, or prospective customers to discuss their experience with your company?

REF #	CLIENT	VOTING SYSTEM SOLUTION?	SIMILAR SIZE AND SCOPE?	CURRENT OR PAST?	PERMISSION TO CONTACT?
1	State of South Carolina Contact Person Name: Marci Andino Address: Election Commission – 1122 Lady Street, Ste. 500, Columbia, SC 29201 CONFIDENTIAL [REDACTED] [REDACTED]	iVotronic, M100, DS200, DS850	Registered voters: 2,820,774. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set- Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
2	State of Arkansas Contact Person Name: Kelly Boyd, Chief of Staff - Arkansas Secretary of State Address: State Capitol -	DS200, ExpressVote, ExpressPoll	Registered voters: 1,570,961. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set- Up, Hardware and Software Training, Election Day	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

	500 Woodlane, Little Rock, AR 72201 CONFIDENTIAL <div></div> <div></div>		Support, Hardware/Software Maintenance and ongoing support.		
3	State of Delaware Contact Person Name: Elaine Manlove Address: 905 S Governors Ave, Ste. 170, Dover, DE 19904 CONFIDENTIAL <div></div> <div></div>	ExpressVote XL, DS450, ExpressPoll	Registered voters: 650,000. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set-Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
4	State of Utah Contact Person Name: Justin Lee Address: Utah State Capitol Complex – Suite 220, Salt Lake City, UT 84114 CONFIDENTIAL <div></div> <div></div>	DS200, DS450, DS850, ExpressVote, Balotar	Registered voters: 1,249,654. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set-Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
5	Marion County, Indiana Contact Person Name: Brienne Delaney, Director of Elections, Marion County Election Board Address: 200 E.	ExpressVote, DS200, DS850	Registered voters: 612,352. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set-Up, Hardware and Software Training, Election Day	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

	Washington St., Suite W-122, Indianapolis, IN 46204 CONFIDENTIAL <div></div> <div></div>		Support, Hardware/Software Maintenance and ongoing support.		
6	Davidson County, Tennessee Contact Person Name: Bobby Medley Address: Election Commission – 1417 Murfreesboro Pike, Nashville, TN 37217 CONFIDENTIAL <div></div> <div></div>	ExpressVote, DS200, DS450, ExpressPoll	Registered voters: 358,108. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set-Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
7	Jefferson County, Kentucky Contact Person Name: Sally Williamson, Elections Support Generalist Address: Jefferson County Clerk Office 701 West Ormsby Ave. Ste 301 Louisville, KY 40203 CONFIDENTIAL <div></div> <div></div>	DS200, ExpressVote	Registered voters: 494,000. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set-Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.	CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/>	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>

8	<p>Montgomery County, Ohio</p> <p>Contact Person Name: Mr. Steve Harsman, Deputy Director</p> <p>Address: Board of Elections, 451 W. Third St. Dayton, OH 45402</p> <p>CONFIDENTIAL</p> <p>██████████████████</p> <p>██████████</p>	ExpressPoll	<p>Registered voters: 370,908. ES&S provided full delivery, installation, and implementation which includes: Project Management, Equipment Set- Up, Hardware and Software Training, Election Day Support, Hardware/Software Maintenance and ongoing support.</p>	<p>CURRENT <input checked="" type="checkbox"/> PAST <input type="checkbox"/></p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>
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RFP NAME: Statewide Voting System			
RFP NUMBER: 47800-SOS0000037			
SUPPLIER: Election Systems & Software, LLC			
Attachment E - Mandatory Scored Questions			
Suppliers must answer all the questions in this spreadsheet.			
<u>Failure to answer these questions will result in disqualification of the proposal.</u>			
Suppliers must indicate whether their proposal meets the individual requirement and provide a supporting narrative. The narrative description, along with any required supporting materials, will be evaluated and awarded points in accordance with Section 6, Proposal Evaluation and Award. ONLY upload documents if there is a Yes in the "Upload Attachs with Additional Information?" column, to provide additional information about specific questions. Documents not requested in this column will not be evaluated.			
DO NOT INCLUDE ANY COST INFORMATION IN YOUR RESPONSE TO THIS WORKSHEET.			
Question #	Questions per Proposal Factors/Categories	Upload Attachs with Additional Information?	Attachment File Name
1	Business Background and Financial Capability		
1.1	Describe the history of your business and organizational structure. Describe the organization and ownership structure to include parent companies, divisions, subsidiaries, headquarters, and regional offices. List key personnel including personnel that would supervise implementation of the proposed SVS and provide a CV or resume for each person uploaded as "Organizational Structure."	Yes	1-1 Org Structure
1.2	Describe your prior experience providing a similar solution to the proposed SVS and include how long you have offered this type of solution. Explain why the system is proposed as a solution for Georgia.	Yes	1-2 SVS Experience
1.3	Complete the attached form titled "Systems and Jurisdictions Implemented" to list jurisdictions where you have implemented a similar solution to the proposed SVS. Include the name, size and type of jurisdiction, the year of implementation, type of system implemented, and other details to explain the applicability of the comparison with Georgia.	Yes	1-3 Implementations
1.4	Describe how your company is financially positioned to handle a project of this size and scope under the timeframe required.	Yes	1-4 Financial Narrative
2	Election Management System (EMS)		
2.1	Complete the attached form titled "Election Management System" and include narrative.	Yes	2-1 EMS
2.2	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	2-2 EMS Validation
2.3	Describe the proposed EMS' post-election auditing capabilities.	Yes	2-3 EMS Audit
2.4	Define how the proposed EMS can be virtualized to run on GASOS and county virtual operating system (OS) environments.	Yes	2-4 EMS Virtual
2.5	Describe how the proposed EMS configures BMD, PPS, and CSD for provisional balloting.	Yes	2-5 EMS Provisional
2.6	Ease of Use for GASOS and Local Election Officials: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	2-6 EMS Ease of Use
2.7	Describe how the proposed EMS will support the building of ADA accessible ballots.	Yes	2-7 EMS ADA
2.8	Describe how the proposed EMS interfaces with upstream and downstream applications.	Yes	2-8 EMS Interface
3	Polling Place Scanner (PPS)		
3.1	Complete the attached form titled "Polling Place Scanner" and include narrative.	Yes	3-1 PPS
3.2	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	3-2 PPS Validation
3.3	Describe your PPS' tabulation process.	Yes	3-3 PPS Tabulation
3.4	Describe what functions the PPS provides to assist with post-election audits.	Yes	3-4 PPS Audit
3.5	Ease of Use for Local Election Officials and Voters: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	3-5 PPS Ease of Use
3.6	Ballot Scanning Capacity: Provide the number of ballots that can be held by the ballot box to which the proposed PPS would be connected. Specify capacity by ballot size dimensions.	Yes	3-6 PPS Capacity
3.7	Describe how the proposed PPS handles adverse environmental and physical ballot conditions (i.e. water, humidity, bent or torn ballots, etc.).	Yes	3-7 PPS Environment
3.8	Describe how the proposed PPS will support ADA accessibility for scanning ballots.	Yes	3-8 PPS ADA
4	Central Scanning Device (CSD)		
4.1	Complete the attached form titled "Central Scanning Device" and include narrative.	Yes	4-1 CSD
4.2	Describe your CSD's tabulation process.	Yes	4-2 CSD Tabulation
4.3	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	4-3 CSD Validation
4.4	Describe how the CSD assists with post-election audits.	Yes	4-4 CSD Audit
4.5	Ease of Use for Local Election Officials: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	4-5 CSD Ease of Use
4.6	Ballot Scanning Capacity: Describe the number of ballots per minute that can be scanned, imaged, and tabulated by the proposed CSD. Specify by ballot type and size.	Yes	4-6 CSD Capacity
4.7	Describe how the proposed CSD handles adverse environmental and physical ballot conditions (i.e. water, humidity, bent or torn ballots, etc.).	Yes	4-7 CSD Environment
5	Ballot Marking Device (BMD)		
5.1	Complete the attached form titled "Ballot Marking Device" and include narrative.	Yes	5-1 BMD
5.2	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	5-2 BMD Validation
5.3	Describe how the proposed BMDs transition from Absentee In-Person voting to Election Day use.	Yes	5-3 BMD Transition
5.4	Ease of Use for Local Election Officials and Voters: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	5-4 BMD Ease of Use
5.5	Describe the impact of environmental factors on ballot printing related to BMDs. Describe if the printed surface of the paper ballot produced by a BMD is subject to smearing, erasure, or other intentional or accidental environmental factors such as water, oils from human skin, or other elemental substances one might find in an election office, warehouse, or polling location.	Yes	5-5 BMD Environment
5.6	Describe how the proposed BMD will support ADA accessibility.	Yes	5-6 BMD ADA

6	EPoll Data Management System (EPDMS)		
6.1	Complete the attached form titled "EPoll Data Management System" and include narrative.	Yes	6-1 EPDMS
6.2	Describe how election configuration information is loaded. Is it done via encrypted, removable memory devices created by the EPDMS or through direct a connection to EPDMS through a LAN?	Yes	6-2 EPDMS Media
6.3	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	6-3 EPDMS Validation
6.4	Ease of Use for the State and Election Official: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	6-4 EPDMS Ease of Use
7	Electronic Poll Book (EPoll)		
7.1	Complete the attached form titled "Electronic Poll Book" and include narrative.	Yes	7-1 EPoll
7.2	Describe how election configuration information is loaded. Is it done via encrypted, removable memory devices created by the EPDMS or through direct a connection to EPDMS through a LAN?	Yes	7-2 EPoll Media
7.3	Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.	Yes	7-3 EPoll Validation
7.4	Ease of Use for the Election Official: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.	Yes	7-4 EPoll Ease of Use
8	Consumables/Peripherals		
8.1	Describe all consumables used to support the proposed SVS, including estimated life of each product, spoilage/scrap rate, manufacturer, product specifications, part numbers, and quantities required for each piece of equipment or polling place. Examples of consumables include, but are not limited to, ink cartridges, paper, replacement parts, etc.	Yes	8-1 Consumables
8.2	Describe all peripheral equipment used to support the proposed SVS. Details should include manufacturer, product specifications, part numbers, and quantities required for each piece of equipment or polling place. Peripherals should include any and all equipment that is required for use, including spare parts, memory cards, equipment stands, proprietary cables or connectors, etc. Also describe non-proprietary equipment that you can provide or provide details for items available for purchase outside of the Master Service Level Agreement (MLSA), including generic cables, extension cords, etc.	Yes	8-2 Peripherals
9	Training and Support - State Level		
9.1	Provide an extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed EMS in creating and configuring election databases for use in Georgia elections and primaries.	Yes	9-1 GASOS Train EMS
9.2	Provide an extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed PPS, CSD, and BMD.	Yes	9-2 GASOS Train Equip
9.3	Provide extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed EPDMS and EPolls.	Yes	9-3 GASOS Train EPoll
10	Training and Support - County Level		
10.1	Provide an extensive, in-depth training plan for county election officials on the setup and use of the proposed PPS, CSD, and BMD. Include a diagram of Advance-In Person voting and Election Day setup of all proposed SVS components.	Yes	10-1 County Training
10.2	Provide a training plan and documentation to each county elections office on, at minimum, the following: 1. Loading prepared election database to EMS. 2. Setting amount of Absentee by Mail scanning, Absentee In-Person voting, Election-Day use, and Provisional scanning equipment in EMS to be used for a given election. 3. Viewing and printing pre-election proofing reports from EMS. 4. Preparing necessary election media from EMS for use in the proposed PPS, CSD, and BMD. 5. Preparing and testing equipment for Absentee by Mail scanning, Absentee In-person voting, Election Day use, and Provisional scanning. 6. Configuring and sealing equipment for Absentee by Mail scanning, Absentee In-person voting, Election Day use, and Provisional scanning. 7. Absentee In-Person voting equipment opening and closing procedures (PPS, BMD, EPoll). 8. Election Day equipment opening and closing procedures (PPS, BMD, EPoll). 9. Polling scanning procedures. 10. Central scanning procedures. 11. Transitioning equipment from Absentee In-person voting use to Election Day use. 12. Basic equipment troubleshooting, while in use. 13. Removing and securing collected ballots and removable media. 14. Recovering archived data from internal memory (PPS, EPoll, and CSD). 15. Uploading removable media to EMS. 16. Producing tabulation reports from EMS. 17. Generating export files from EMS for Election Night Reporting (ENR). 18. Preparing post-election documentation from EMS. 19. Preparing finalized copy of election results from EMS for delivery to GASOS for certification. 20. Conducting recounts. 21. Conducting post-election audits. 22. Proper storage and maintenance of all SVS components.	Yes	10-2 County Train Docs
11	Ballot Building Support		
11.1	State Level Support - Describe your ability to build ballots for all federal, state, county, and municipal (if executed on the proposed SVS) elections through June 30, 2021.	Yes	11-1 Ballot Building
11.2	State Level Support - After June 30, 2021, describe your ability to provide phone support to the GASOS until the end of the Contract, including 24/7 support on Election Day and normal GASOS business hours (8:00 AM to 5:30 PM) 45 days prior to each election.	Yes	11-2 GASOS Phone
11.3	County Level Support -Describe your ability to provide voluntary, county-requested on-site support to county election offices in the general use of the proposed EMS when loading a prepared election dataset, creating and uploading necessary election media, and generating pre and post-election reports through December 31, 2020.	Yes	11-3 County Support
11.4	County Level Support - Describe your ability to provide phone support to county election offices in the general use of the proposed EMS when loading a prepared election dataset, creating and uploading necessary election media, and generating pre-election and post-election reports through December 31, 2021.	Yes	11-4 County Phone
12	Project Management and Program Support		
12.1	Provide detailed organizational charts, project management methodology, named resources, use of external resources, and work history of projects completed using those resources.	Yes	12-1 PM Plan

12.2	Provide detailed staffing and project management requirements/organizational structure and time commitments required of GASOS staff. Describe the organizational structure and full time equivalent (FTE) required for each resource.	Yes	12-2 PM Staff
12.3	Provide a high-level project plan with timeline to implement a project of this magnitude and demonstrate historical information of similar projects and approach to demonstrate ability to deliver this project on schedule.	Yes	12-3 PM Time
12.4	Provide a roll-out plan for deploying all components of the proposed SVS to the GASOS for up to 10 local jurisdictions for use in November 2019 elections by August 1, 2019. Reference Attachment O - Potential Equipment Distribution.	Yes	12-4 Deploy 1
12.5	Provide a roll-out plan for deploying of a representative sample of equipment for each county by December 2019. Reference Attachment O - Potential Equipment Distribution.	Yes	12-5 Deploy 2
12.6	Provide a roll-out plan for deploying all equipment to all 159 counties through a phased roll-out in the first quarter of 2020. Reference Attachment O - Potential Equipment Distribution.	Yes	12-6 Deploy 3
13	Application Lifecycle Management and Release Management Plan		
13.1	Detail all of the environments used for your development lifecycles (i.e. development, sandbox, user acceptance testing (UAT), and production).	Yes	13-1 ALM
13.2	Provide a description of testing protocols and outputs provided to GASOS used to formalize releases and make sure all testing has been completed prior to any release. Include sample use cases and sample test results.	Yes	13-2 ALM Test
13.3	Provide a generic map or description of your system development lifecycle (SDLC) process for implementing the proposed SVS, GASOS staff required for each SDLC step, your personnel or resources for each step, and provide a generic timeline that is representative of a typical installation for an entity similar to the GASOS.	Yes	13-3 ALM Map
14	Current Equipment Inventory and Production Capacity		
14.1	Describe your plan to deliver all acceptance tested SVS components and associated peripherals to the GASOS and each county election office in Georgia during the first quarter of 2020.	Yes	14-1 Accept Test
14.2	Provide your SVS equipment specifications and full inventory required (PPSs, CSDs, BMDs, EPolls, etc.).	Yes	14-2 Equip Spec
14.3	Identify the replacement process and cycle time for equipment that fails acceptance testing.	Yes	14-3 Replacement
14.4	Identify testing failure rates currently seen on new deployments of implementations similar to this project.	Yes	14-4 Fail Rates
15	Lifecycle Inventory Management and Support		
15.1	Identify the spare inventory management model to be to be used with this Contract.	Yes	15-1 Spares
15.2	Identify SVS equipment that will be replaced by the Supplier.	Yes	15-2 Supplier Replace
15.3	Describe the process for jurisdictions to submit requests for SVS equipment repair or purchase additional equipment.	Yes	15-3 Repair Request
15.4	Describe the process for jurisdictions to purchase SVS peripherals (i.e. storage media devices, ballot storage boxes, batteries, etc.).	Yes	15-4 Purchase Equip
15.5	Describe the process for jurisdictions to purchase consumables necessary to operate the proposed solution (i.e., paper, toner, etc.).	Yes	15-5 Purchase Consum
15.6	Provide examples of common repair requests seen on like systems with other customers.	Yes	15-6 Common Repairs
15.7	Provide typical repair turnaround process and times.	Yes	15-7 Turnaround
16	Supply Chain Continuity		
16.1	Describe your measures in place and commitments to assure availability of products, components, software, services, and other deliverables for possible length of contract with renewals (15+ years). Describe whether second sourcing of generic or proprietary products is available or could be obtained by the GASOS or counties in the event of a failure or disruption in supply by the Supplier; price protection available to assure reasonable market prices for the life of the contract; and options available for services or upgrades from independent service organizations (if any) authorized or licensed by Supplier.	Yes	16-1 Supply Chain
17	Quality Assurance		
17.1	All equipment must be presented to the GASOS for acceptance testing before distribution. All equipment that fails acceptance testing is prohibited from distribution and shall be returned to the Supplier, at Supplier cost. Describe your quality assurance plan to meet the above requirement to ensure that new and repaired equipment moves efficiently through GASOS acceptance testing.	Yes	17-1 Quality Assurance
18	Documentation		
18.1	Provide a complete technical data package (TDP) for the proposed SVS.	Yes	18-1 TDP
18.2	Provide a system map for the proposed SVS that explains how each component (EMS, EPDMS, PPS, CSD, BMD, etc.) creates the overall proposed SVS.	Yes	18-2 System Map
18.3	Provide user guides and manuals for all components of the proposed SVS to the GASOS and to all county election offices.	Yes	18-3 User Guides
18.4	Provide storage guidelines for all components of the proposed SVS to the GASOS and to all county election offices.	Yes	18-4 Storage Guide
18.5	Provide a sample of county election official training documentation to the GASOS on the basic setup and use of all components of the proposed SVS.	Yes	18-5 County Train Sample
18.6	Provide a sample of poll worker training documentation to all counties on the basic setup and use of the proposed BMD, PPS, and EPoll solutions.	Yes	18-6 PW Train Sample
18.7	Provide a sample of voter instructional information on the use of the proposed BMD and PPS solutions.	Yes	18-7 Voter Info Sample
19	New Technology		
19.1	During the term of the Contract, the GASOS may wish to incorporate new components or technologies within the scope of the proposed SVS, which at the time of the Contract's start date were unavailable. Describe how you would manage this process.	Yes	19-1 New Tech
19.2	Supplier may request to add additional types of SVS components throughout the term of the Contract. Describe how you would manage this process. (i.e., introduction of a new model of equipment because of end of life of a component).	Yes	19-2 Add Component
20	Ballot Printing		
20.1	Describe your ballot-on-demand solution.	Yes	20-1 BOD
20.2	Describe your ballot printing solution for Absentee by Mail voting.	Yes	20-2 Abs Mail
21	System Data, Security, and Access		
21.1	Describe how data is imported into the proposed SVS and how data is exported out. Describe how this process is protected against a cyber attack.	Yes	21-1 Cyber

21.2	In the proposed SVS, describe how you handle data security. - Data security for data in transit in and out of the proposed SVS from external systems. - Data security for data at rest in the EMS. - Data security for data in transit in the EMS. - Data security for data at rest in the polling place (EPolls, PPS, and CSD). - Data security for data in transit to and from the polling place (EPolls, PPS, and CSD).	Yes	21-2 SVS Security
21.3	Describe how and how often your business is assessed for cybersecurity and your notification plan to GASOS of any incidents, events, or threats. What standards are followed in establishing cybersecurity to protect your development and repair environment?	Yes	21-3 Security Assess
21.4	Describe the best practices that you recommend for protecting the environment that you are proposing for the SVS.	Yes	21-4 Best Practices
21.5	Describe if the proposed SVS employs any type of wireless, Bluetooth, or internet communication. If yes, what protocols and what security standards do you use? Can it be turned off and still allow the SVS to function?	Yes	21-5 Connect
21.6	What type of user access protection is required for each part of the proposed SVS? What is required for administrative and maintenance access to SVS equipment?	Yes	21-6 Access
21.7	Describe the process for updating the proposed SVS as security requirements change. Describe how often updates are supplied and the certification process for these updates.	Yes	21-7 Updates
21.8	Describe if any component of the proposed SVS has a key, dongle, licensing time clock, or disabling device.	Yes	21-8 Key
21.9	For physical security purposes, provide footprint dimensions for storage and use for all equipment proposed in the SVS environment including stacking height for storage and placement spacing while in use. Also, list all GASOS or county supplied equipment that would be required to store and use the proposed SVS (i.e. tables, chairs, extension cords, privacy shielding, computer hardware, etc.).	Yes	21-9 Footprint
21.1	Describe your method of securing voted paper ballots upon removal from the PPS for transport and storage.	Yes	21-10 Ballot Secure
21.11	Describe the chain of custody best practices that you recommend for handing completed ballots during collection, in transit, and in storage to ensure the security of the ballots.	Yes	21-11 Chain
21.12	Describe how the proposed SVS prevents "stuffing the ballot box" with paper ballots printed from BMDs and/or photocopied or otherwise forged ballots.	Yes	21-12 Ballot Box
21.13	Describe your proposed SVS' physical security features including seals, locks, and tamper-evident features and describe if there are any exposed data ports such as USB ports, cable inputs, etc. on any components.	Yes	21-13 Physical Security
22	Post Election Audits		
22.1	Describe the proposed SVS' hardware and software features that facilitate post-election tabulation audits.	Yes	22-1 Tab Audit
22.2	Describe the proposed SVS' ability to facilitate risk limiting audits including the creation of a cast vote record and the format of the cast vote record.	Yes	22-2 Risk Audit

I BUSINESS BACKGROUND AND FINANCIAL CAPABILITY

I-I ORG STRUCTURE

I.1 Describe the history of your business and organizational structure. Describe the organization and ownership structure to include parent companies, divisions, subsidiaries, headquarters, and regional offices. List key personnel including personnel that would supervise implementation of the proposed SVS and provide a CV or resume for each person uploaded as "Organizational Structure."

ES&S RESPONSE

ES&S is the largest elections-only company in the United States with 40 years of experience supporting the elections of 4,500 customers worldwide. We have supported more than 100,000 elections in the last decade alone.

ES&S is a privately-owned Delaware limited liability company. The company was initially incorporated in 1979 as American Information Systems and subsequently incorporated as ES&S in 1997 upon its acquisition of the elections division of Business Records Corporation. On September 2, 2009, ES&S acquired the assets of Premier Election Solutions and Premier-Canada. Effective October 1, 2011, Premier was merged with and into ES&S, and ES&S changed its form of legal entity from a C-corporation to a Delaware limited liability company.

Election Systems and Software, LLC ("ES&S") is a wholly owned subsidiary of Government Systems, Software & Services, Inc. ("GS3"). GS3 is a privately-owned Delaware corporation headquartered in Omaha, NE. The company maintains eight (8) facilities across North America. The project management team is backed by our staff of more than 500 full-time elections professionals.

ES&S is taking a team approach to ensure the State of Georgia is successful in implementing its statewide voting system. From a leadership perspective, we will have the Vice President and Regional Manager of Account Management as well as the Regional Sales Manager overseeing the project team during all implementation activities. ES&S will assign a lead Project Manager, three (3) Account Managers and Regional Coordinators throughout the State as outlined in the below Organizational Chart.

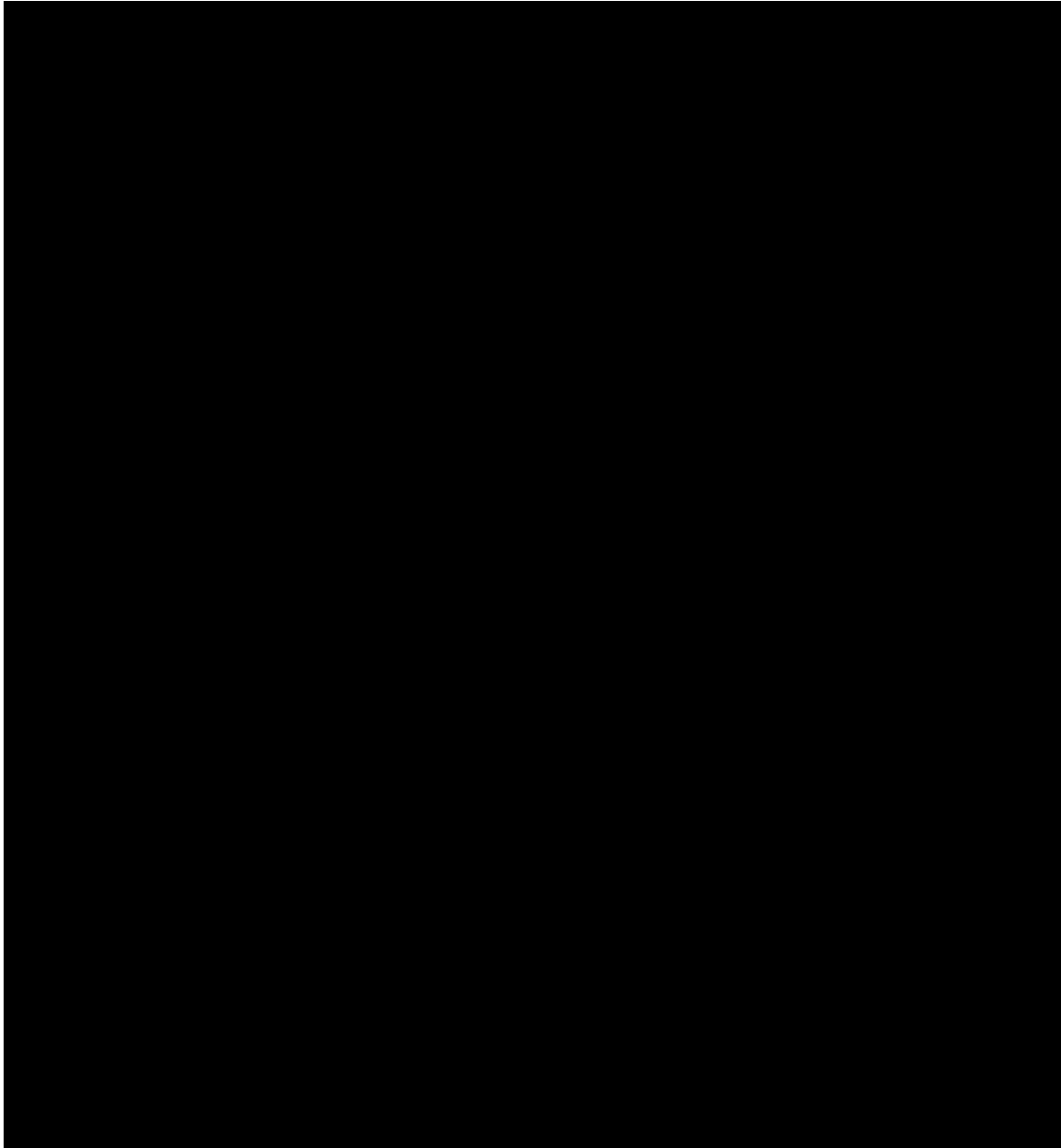
The proposed project team for Georgia will consist of the following key personnel:

- ✔ Jeb Cameron, Contractor Relationship Manager
- ✔ Mac Beeson, VP Central Region Sales
- ✔ Linda Bennett, VP, Account Management East
- ✔ Guy Riner, Regional Account Manager
- ✔ Holly Richardson, Project Manager, Account Management
- ✔ Kim Carlisle, Lead Account Manager
- ✔ Staci Jackson, Account Manager

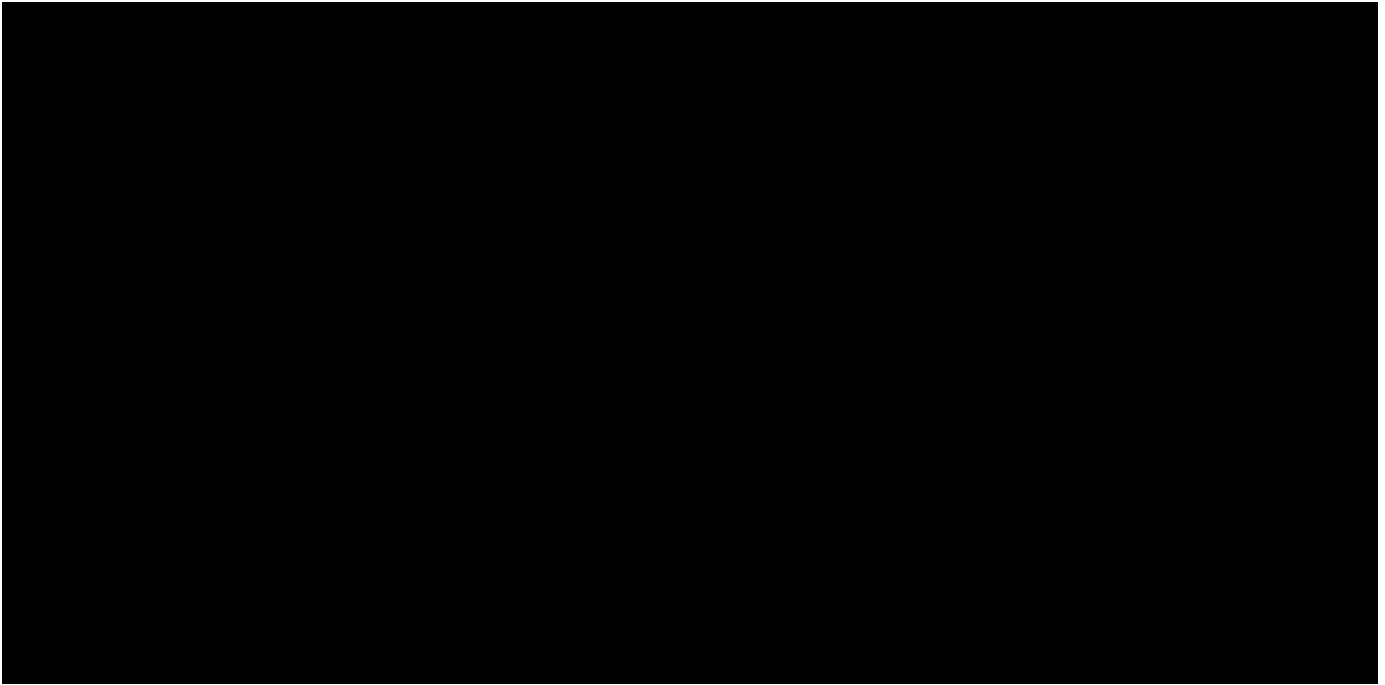
- ✔ Lee Headspeth, Account Manager
- ✔ Angie Butler, Operations Training and Resource Planning Manager
- ✔ Derek Simmons, Regional Manager, Field Service
- ✔ Three (3) ballot builders

Please see the below organizational structure and included resumes for the key personnel.

CONFIDENTIAL



CONFIDENTIAL



I BUSINESS BACKGROUND AND FINANCIAL CAPABILITY

I-2 SVS EXPERIENCE

I.2 Describe your prior experience providing a similar solution to the proposed SVS and include how long you have offered this type of solution. Explain why the system is proposed as a solution for Georgia.

ES&S RESPONSE

ES&S has extensive prior experience managing complex statewide implementations across the country. ES&S has successfully completed 16 statewide implementations since 2004 and places a high value on its knowledge of voting system installations and support. Moreover, ES&S has significant experience with implementation projects involving the proposed solution for the State of Georgia.

We are proposing this solution to the state because of its proven success in the field, its ease of use for voters, poll workers, and county election officials, and its compatibility with the laws and regulations that govern Georgia's elections today. Our end-to-end solution brings the best of Georgia's current touch-screen system forward while providing the voter-verifiable and auditable paper trail that the state now requires. We propose this system because it exceeds the requirements set forth in the proposal without the need to revolutionize the process and procedures guiding the administration of elections today.

I BUSINESS BACKGROUND AND FINANCIAL CAPABILITY

I-3 IMPLEMENTATIONS

I.3 Complete the attached form titled "Systems and Jurisdictions Implemented" to list jurisdictions where you have implemented a similar solution to the proposed SVS. Include the name, size and type of jurisdiction, the year of implementation, type of system implemented, and other details to explain the applicability of the comparison with Georgia.

ES&S RESPONSE

Please see included **Attachment T - Systems and Jurisdictions Implemented.**

RFP No: 47800-SOS0000037



RFP Name: Statewide Voting System

ATTACHMENT T

SYSTEMS AND JURISDICTIONS IMPLEMENTED

List jurisdictions where you have implemented voting systems in the past ten years. Include the type of system implemented and the year of implementation.

I BUSINESS BACKGROUND AND FINANCIAL CAPABILITY

I-4 FINANCIAL NARRATIVE

I.4 Describe how your company is financially positioned to handle a project of this size and scope under the timeframe required.

ES&S RESPONSE

ES&S is the most experienced elections-only company in the country and has been delivering election equipment, software, and services for four decades. The company employs more than 500 election professionals located in eight (8) operating locations across the United States. Our team is composed of seasoned, highly skilled experts whose sole mission is to support our customers in the conduct of elections. ES&S has supported more than 100,000 binding elections in the last decade alone and prides itself as having a single focus of ensuring our customers' elections are safe, secure, and successful.

In addition to our substantial human resources, we have ample financial resources available to us to support an undertaking of this size. ES&S is no stranger to large scale installations and our success in this area time and again has enabled us to build a strong balance sheet – the strongest in the industry – and fortifies our ability to successfully deliver to the State of Georgia. Standing behind our balance sheet you will find:

- ✔ **Consistent ownership.** ES&S has enjoyed the same ownership since 1987 and this stability in ownership has allowed us to make financial and operational decisions that benefit both the company and our customers over the long term.
- ✔ **Strong Banking Relationship.** ES&S partners with Bank of America – one of the largest banks in the world – to support our growth. Bank of America's resources, experience and know-how has allowed ES&S to capitalize on numerous opportunities during our long and rewarding relationship.
- ✔ **Stable and Proven Supply Chain.** ES&S has no peer in the election space when it comes to the management of the supply chain. We have forged relationships with suppliers that date back to the 1990's and our stable of suppliers are some of the most capable in the world.
- ✔ **Large Performance Bond Capacity.** ES&S has been providing performance bonds for 2 decades and we have used the same surety for the last 15 years. We have a strong and trusted relationship with our surety that knows ES&S delivers on its promises, time and again.

ES&S is confident that, through the combination of unrivaled large jurisdiction experience, a strong balance sheet, and committed ownership, we will be uniquely positioned to maintain adequate financial strength throughout the duration of this project.

Please see **0-6 Financial Docs** for our audited financial statements for fiscal years 2016 to 2018.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-1 EMS

2.1 Complete the attached form titled "Election Management System" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment I – Election Management System**.

Attachment I - Election Management System

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Election Data Set Control Capabilities

a. Allow state administrators to establish different levels of user permissions within each election database generated.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>- Electionware EMS Administrators use the Electionware Setup module to create and configure different levels of user permissions. There are five levels of Electionware users:</p> <ul style="list-style-type: none"> * "Administrators" (access to all modules) * "Users" (access to all modules except the Setup module) * "Ballot Producers" (access to only modules related to printing ballot PDFs) * "Media Creators" (access to only modules related to creating USB memory device tabulator media) * "Ballot Reviewers" (access to only modules related to reviewing ballot images and their corresponding Cast Vote Records). <p>- Electionware displays only the modules applicable to a given user. This ensures control over your election definition. Each user has a unique name and password.</p> <p>- In addition, as part of the hardening process, three special</p>	<p>Electionware Election Management System</p> <p>Sale</p>
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		<p>Microsoft Windows User Groups are established for logging into the EMS workstations and/or server:</p> <ul style="list-style-type: none"> * ElectAdmin (has access to all ES&S applications installed on the system); * ElectDefine (has access to applications required to define the election); * ElectResult (has access to applications required to create and report election night results). <p>- The Microsoft Windows user accounts and groups are created in the Windows User Management module. An Electionware user is not required to be a Windows operating system administrator. The election administrator may also ask the system administrator to create other roles with further restrictions.</p>	
b. Permit county-level users access to the EMS application without requiring administrative privileges to the operating system.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>County-level users could access the application without being an administrative user. Electionware features several levels of user permissions.</p>	<p>Electionware Election Management System</p> <p>Sale</p>
c. Require all users to have unique login credentials including but not limited to a unique username and unique password.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The system administrator creates unique login credentials for each user allowed to log onto EMS workstations. Election personnel allowed access to the shared folder on the server receive a second unique share user ID and password.</p> <p>Within Electionware, only the election administrator role can set up users, assigning them to roles that limit their access.</p>	<p>Electionware Election Management System</p> <p>Sale</p>

d. Secure ballot layout and election configuration data to prevent unauthorized modification or copying of such data.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides the ability to lock ballot sets so that the ballot layout is preserved when changes occur after ballot styles have been printed. This option is only available for an Administrator.	Electionware Election Management System Sale
Data Import Capabilities			
a. Candidate names to appear on ballot	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import candidate names.	Electionware Election Management System Sale
b. Candidate names to appear on election reports	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Candidate names imported into Electionware and formatted for a ballot can appear on election reports.	Electionware Election Management System Sale
c. Candidate names sequence on the ballot	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the candidate sequence.	Electionware Election Management System Sale
d. Candidate names to appear by political party/body affiliation of each candidate	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Candidate names and political party/body affiliation can be imported into Electionware.	Electionware Election Management System Sale
e. Political party sequence on the ballot	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the political party sequence.	Electionware Election Management System Sale
f. Incumbency status of each candidate	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides up to 10 Additional Text fields. One could easily be used to show the incumbency status of each candidate. This information may be imported or manually entered into Electionware's Capture module. The Table View option allows you to create a customized reporting showing each candidate and their information such as Incumbency, Export Codes, party, etc.	Electionware Election Management System Sale
g. Candidate export codes (for election night reporting purposes)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides a field for Candidate Export Codes (Alternate ID 2) which are typically used for	Electionware Election Management System

		election night reporting purposes. This field can be imported directly into Electionware's Capture module or manually entered. It may also be updated if needed in the Reporting module.	Sale
h. Election ID	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the Election ID.	Electionware Election Management System Sale
i. Contested office	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the contested office.	Electionware Election Management System Sale
j. Contest export codes (for election night reporting purposes)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides a field for Contest Export Codes (Alternate ID 2) which are typically used for election night reporting purposes. This field can be imported directly into Electionware's Capture module or manually entered. It may also be updated if needed in the Reporting module.	Electionware Election Management System Sale

Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
k. County name	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the county name.	Electionware Election Management System Sale
l. Precinct name	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the precinct name.	Electionware Election Management System Sale
m. Polling place name and address	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import polling place name and address.	Electionware Election Management System Sale
n. Polling place ID	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the polling place ID.	Electionware Election Management System Sale
o. Political districts	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the political districts.	Electionware Election Management System Sale
p. District combination values	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import district combination values.	Electionware Election Management System Sale
q. Political parties	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the political parties.	Electionware Election Management System Sale
r. Vote for 1 or vote for many	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import vote for 1 or vote for many.	Electionware Election Management System Sale
s. District combination value	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import district combination value.	Electionware Election Management System

			Sale
t. Precinct	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the precinct.	Electionware Election Management System Sale
u. Polling place	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Capture module can import the polling place.	Electionware Election Management System Sale
Audio Input Capabilities			
a. Accept imports of audio files required for audio ballot as single files or as a bundle of audio files.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Audio files for both English and translated languages can be quickly generated using a separate software application called Text-To-Speech. These are then imported into Electionware in one simple step.	Electionware Election Management System Sale
b. Provide a text-to-speech process for generating necessary audio files with the ability to edit and correct pronunciation when necessary.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Our EMS software greatly simplifies the process of creating an audio ballot. Electionware Toolbox features a text-to-speech generator that creates all the required audio files using synthesized speech. The pronunciation of all items can be previewed and corrected right in the application, and multiple languages are fully supported. If a "human voice" audio ballot is preferred, Electionware fully supports that model as well by generating a list of all required audio files and one-click import of all files.	Electionware Election Management System Sale
c. Support audio files in any of the following formats: .wav, mp3, .avi, or .mpg.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Text-to-speech supports .wav audio files.	Electionware Election Management System Sale
Election Dataset Editing			
a. Allow manual data entry of election database information.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware allows for both manual data entry and import of properly formatted election files. Manual entry is simplified with shortcut keys and certain fields are auto-populated for the user. Each data element allows up to 10 unique	Electionware Election Management System Sale

		additional fields for more flexibility in how the election data can be displayed on the ballot.	
b. Allow manual adjustment of ballot layout (both for printed ballots and ballots displayed by ballot marking devices (BMD)).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Paper Ballot and Accessible Ballot layout modules offer a powerful and versatile ballot layout process. Once ballots are formatted as needed, users can create one or as many ballot templates as needed.	Electionware Election Management System Sale

State of Georgia

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Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
c. Allow the layout of pre-printed and/or ballot on demand printed ballots to be one (1), two (2), three (3), or four(4) columns.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ballot can be designed in grid landscape or portrait, as well as the traditional multi-column portrait ballot. In a column portrait format, users can create various size columns. For example, ballot sides can be set to 1, 2, 3 or 4 columns wide. They can have some narrow columns mixed with a wider column.	Electionware Election Management System Sale
d. The EMS needs to be able to allow the ballot builder to configure the ballot to take advantage of the whole piece of paper.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Our systems contain the utmost ballot creation flexibility to support the various jurisdiction rules of our current and potential customers. At a high level, Electionware provides complete control over items such as ballot sizes and oval density, stubs and perforations, number of ballot rows and columns, ballot orientation, text and graphic placement, watermarks, ruling lines and margins.	Electionware Election Management System Sale
e. Allow changes to font sizes and style.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware also provides complete typographic control over every piece of text that appears on the paper ballot. Typographic elements under your control include font face, font style, font size, line size, strikeout, underline, text color, margins, ruling lines, alignment, text rotation, font kerning, relative and absolute placement, background color, and more.	Electionware Election Management System Sale
f. Allow for creation of two-side and multi-page ballots.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Paper Ballot is used to create ballots. It allows multiple	Electionware Election Management System

		ballot sheets or pages. To add another sheet, the user would enter the Ballot Setup screen and simply select "Add" in the Ballot Sheets section. Different instructions and precinct/ballot style identifiers can be displayed on each sheet and side of the sheet. Contests and referendum can flow naturally from one side and sheet to the next, or they can be set to a specific side and sheet.	Sale
Ballot Length Capabilities			
a. 11 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware supports 11-inch ballots.	Electionware Election Management System Sale
b. 14 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware supports 14-inch ballots.	Electionware Election Management System Sale
c. 17 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware supports 17-inch ballots.	Electionware Election Management System Sale
d. 18 inches	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		Electionware Election Management System Sale
e. Other Sizes	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware supports 19-inch ballots.	Electionware Election Management System Sale
Ballot Formatting Capabilities			
a. Be capable of providing ballot headers and instructions in both the pre-printed ballot and ballot marking device formats.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides the ability to create ballot headers and instructions on the Paper Ballot and on the Accessible Ballot.	Electionware Election Management System Sale
b. Allow for shading in various areas of the optical scan ballot (i.e., ballot headers and contests headers).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Shading can be added to the ballot header in multiple shades of gray or various colors. Electionware also provides complete typographic control over every piece of text that	Electionware Election Management System Sale

		appears on the ballot. Typographic elements under the user's control include font face, font style, font size, line size, strikeout, underline, text color, margins, ruling lines, alignment, text rotation, font kerning, relative and absolute placement, background color, and more.	
c. Allow for ballot headers and contest headers to be in specific colors when displayed by a BMD.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware allows for headers and contest headers to be in color.	Electionware Election Management System Sale
d. Be capable of establishing the number of write-in candidate options for a given contest (e.g., if a contest is a vote for two, then regardless of the number of qualified candidates, there must also be two write-in candidate lines on the ballot).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The Electionware Capture module allows the user to easily add write-in candidates on each office. Write-in candidates are added with a few clicks as part of setting up a contest. There is a field called "Number of Write-ins" which can be changed as needed. In addition, the Electionware Paper Ballot allows for the State of Georgia to design the look of the write-in area.	Electionware Election Management System Sale

Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

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Ballot Proofing and Sample Ballot Production Capabilities			
a. Be capable of presenting the generated ballot styles in multiple languages. Specify what languages the EMS, PPS, CSD, and BMD can manage.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Systemwide, our proposed voting system can accommodate multiple languages including English, Spanish, Chinese (Mandarin and Cantonese), Korean, Japanese, Hindi, Vietnamese, Tagalog, Creole, Russian, and French. Our equipment and ballots have the capability to show information, voting choices, and messages in several languages besides English to accommodate voters who need or prefer this information in another language. If applicable, audio ballots play back in the voter's selected language. Audio files and most on-screen text is imported from Electionware. Individual jurisdictions determine the available language translations.	Electionware Election Management System Sale
b. Be capable of producing and exporting, via removable media, PDF images of all ballot styles per precinct for proofing purposes.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can create and export ballots as PDF files and save to removable media to allow for proofing.	Electionware Election Management System Sale
c. Be capable of producing and exporting, via removable media, PDF images of all ballot styles for the specific election for sample ballot purposes.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Authorized users can edit the Ballot Setup feature in Electionware's Paper Ballot and remove the Code Channel to create sample ballots. Without the Code Channel, the optical scanner will not process a paper ballot. Users can also add any Watermark wording text on the ballot such as "Sample" or "County	Electionware Election Management System Sale

		Test Ballots.”	
d. Be capable of producing and exporting, via removable media, PDF images of consolidated ballots for jurisdictions containing all contests and questions for the given election or primary.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Users can create a consolidated sample ballot containing all contests and questions by assigning a single precinct to all the active districts in the election.	Electionware Election Management System Sale
e. Be able to copy and edit a previously configured election database.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The software provides the ability to create, copy, edit, and delete previously-defined elections and ballot templates. Election preferences and user preferences can be saved. Previously defined ballot layouts can be saved at any time during the ballot layout process. Templates saved to a file may be applied to any other election. Additionally, multiple layouts for each election may be saved in the Electionware database.	Electionware Election Management System Sale
Election Dataset			
a. Allow authorized users to create newly defined ballot layouts to facilitate error-free definition of ballot layouts for BMD and CSD (e.g. the system should have the capability to report discrepancies between ballot layouts).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware’s Paper Ballot module is used to create ballot layouts for paper and BDM ballots. It provides validations, warnings and error messages to assist the authorized Paper Ballot user in creating error-free ballot layouts.	Electionware Election Management System Sale
b. Maintain a printable audit report of activities within the database that can be organized by various factors (i.e., timestamp, user, etc.).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware maintains an Election Audit Events log for every action the user performs within the application, including system prompts to the user and the user’s response to these prompts. Each tracked event includes the timestamp of the event and the user who performed the action. An Admin Audit Events log is also maintained. This log stores all events generated when an election is	Electionware Election Management System Sale

		not currently open (e.g., user creation, user login/logout, etc.). This log also contains the timestamp and username. Both logs can be filtered by date and event type and printed in a variety of file formats.	
c. Encrypt election configuration and ballot layout data to be transferred from EMS to BMD, PPS, and CSD.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All data exchanged between ES&S voting system components is both encrypted and digitally signed.	Electionware Election Management System Sale

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Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
d. Allow encrypted election configuration and ballot layout data to be exported from the EMS to the proposed BMD, PPS, and CSD through removable memory devices.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All data exchanged between ES&S voting system components is both encrypted and digitally signed. Data is transferred via USB memory devices.	Electionware Election Management System Sale
e. Provide an account of number of encrypted removable memory devices prepared for a given election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Package module offers reports to help you track the exact Poll Media created in an election and when it was prepared. The software only allows secure USB Poll media that have been certified within the system.	Electionware Election Management System Sale
f. Be capable of producing a report, at any point in the process, showing which encrypted, portable removable memory devices have been uploaded to the EMS, and which have not been uploaded to the EMS.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Reporting module provides a report showing which encrypted Poll Media have been loaded at the time of the report generation, as well as which Poll Media have not been loaded yet.	Electionware Election Management System Sale
g. Allow authorized users to display on-screen status (i.e., uploaded or not) of encrypted, portable removable memory devices created by the EMS for use in BMD, PPS, and CSD.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All Electionware reports may be saved by an authorized user to display the on-screen status at any point in the process.	Electionware Election Management System Sale
h. Allow encrypted election data collected by PPS and CSD to be imported through removable memory devices.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All data exchanged between ES&S voting system components is both encrypted and digitally signed. Data is transferred via USB memory devices.	Electionware Election Management System Sale
i. Only allow upload results from encrypted removable memory devices keyed to the specific current election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Each election programmed in Electionware receives a unique encryption key. The encryption key is programmed onto the voting machines during the pre-election testing process. Once a unit is programmed for an election, that	Electionware Election Management System Sale

		unit will only accept USB sticks with the corresponding encryption key. This prevents any possible mistakes of using sticks from a previous election.	
Tabulation and Result Reporting Capabilities			
a. Jurisdiction	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can create jurisdiction reports.	Electionware Election Management System Sale
b. District	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can create district reports.	Electionware Election Management System Sale
c. Polling Place	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can create polling place reports.	Electionware Election Management System Sale
d. Precinct	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can create precinct reports.	Electionware Election Management System Sale
e. District Combination within Precinct	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Reporting module provides various results reports including a breakdown by Precinct, Precinct/Split, District, Ballot Style and Poll Place. The District report is especially helpful to see how a race was tabulated based on different district combinations. For example, a President race could report how results were distributed on a district combination within a precinct, Precinct level, Congressional District level, Municipal level or any other combination created in the database.	Electionware Election Management System Sale
f. Voting Type (i.e., Election Day, Absentee In-Person, Absentee by Mail, Provisional)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides Reporting Groups to differentiate Voting Types such as Election Day, Absentee In-Person, Absentee by Mail, and Provisional. If additional Voting Types are needed, an authorized user can add more.	Electionware Election Management System Sale

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Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
g. Permit the re-upload (updating of previous uploads) of election data collected by PPS and CSD.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Tabulator results can be re-uploaded into Electionware if additional ballots are added to the poll or precinct. By design the system will not allow an update of duplicate results.	Electionware Election Management System Sale
Data Export Capabilities			
a. County code (159 Counties)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware has been used in many different states which require a County code. This field is called the Jurisdiction ID.	Electionware Election Management System Sale
b. Contest code	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Given our extensive experience in supporting different states and statewide system, Electionware provides a field for Contests codes what may be exported for various reporting purposes.	Electionware Election Management System Sale
c. Candidate code	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware provides Candidate codes for export purposes. It also offers export codes for other fields that may be needed in the future such as District Codes and Poll Codes.	Electionware Election Management System Sale
d. Votes per candidate	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports include total votes per candidate.	Electionware Election Management System Sale
e. Number of precincts	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The Electionware Election Summary report contains the total number of precincts in the election.	Electionware Election Management System Sale
f. Number of precincts counted	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can show the number of precincts counted in its reports. Additionally, the Reporting module provides the State with the ability to	Electionware Election Management System Sale

		customize election night exports based on needs. These exports can be created on an as-needed basis or set to be updated on a specified timed interval.	
g. Registered Voters	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware can show the number of registered voters in its reports. Additionally, the Reporting module provides the State with the ability to customize election night exports based on needs. These exports can be created on an as-needed basis or set to be updated on a specified timed interval.	Electionware Election Management System Sale
Election Dataset Retention Capabilities			
a. Save an election database with election results on removable storage media for election retention purposes.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The election data configuration with election results data is saved on a removable USB memory device. As results are processed into Electionware, the full election data is processed onto the EMS system. This data may be backed up using Windows Explorer for archival purposes. Results in Electionware are automatically included in the 1-step Electionware backup process.	Electionware Election Management System Sale
b. Be capable to retaining, maintaining, and reloading, when necessary, configurations and data from previous elections.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware enables the storage, maintenance and reload of configurations and election data. Electionware's Capture module offers a single-entry database that stores all of a jurisdiction's ward/voting location, office, and candidate information. Each individual election can be archived and subsequently restored as needed. Electionware also allows users to save an existing election as a template, which can be used as the basis for future elections. Finally, election templates may be edited similar to an election, allowing users to keep their templates	Electionware Election Management System Sale

		updated between election cycles.	
c. Allow authorized users the ability to electronically adjudicate ballots scanned and collected from PPS and CSD.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's electronic adjudication functionality enable an adjudication team to review ballot image, including those with exceptions like overvotes, undervotes, marginal marks, blank ballots, and write-ins. The user can view ballot images along with CVR data, update ballot status (not review, review with changes, reviewed with no changes, on hold), assign write-in names, and more.	Electionware Election Management System Sale
d. Be capable of transferring election database and election results data to a redundant system in the event of a hardware or software failure.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware has a true backup and recovery system built into the Home module. From the Navigator window, the user can right-click an election (unopened election) and back up the election to a location of their choosing. To restore the election, the user need only select it from a list of backed up elections and click Restore using the original backup code.	Electionware Election Management System Sale
e. Be capable of exporting election results data in multiple widely used data formats including .mdb, .xls, .pdf, .xml, .html, .csv, .doc, and .txt.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Election results may be easily exported in various formats such as XML, XLSX, PDF, RTF, ASCII, HTML, CSV, or TXT.	Electionware Election Management System Sale
Report Capabilities			

Vendor: Election Systems & Software, LLC **Attachment I - Election Management System**

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
a. Be capable of producing all reports on standard letter size paper (8.5 by 11 inches).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware produces paper and electronic reports.	Electionware Election Management System Sale
b. Election name and date	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports offer user customizable report headers, including fields to show election type, date of election, county name, jurisdiction name, and report status. Electionware provides the time/date that the report was generated.	Electionware Election Management System Sale
c. Name of each contest within the election	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports contain the name of each contest.	Electionware Election Management System Sale
d. Name of each candidate or option per contest	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports contain the name of each candidate in each contest or race and the party affiliation.	Electionware Election Management System Sale
e. Party affiliation of each contest and/or candidate	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports contain the name of each candidate in each contest or race and the party affiliation.	Electionware Election Management System Sale
f. Incumbency status, if applicable	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Reporting module allows an authorized user to set up the candidate name for reporting purposes. This field is the Candidate Long Name field which may include data such as Incumbency Status.	Electionware Election Management System Sale
g. Number of ballots cast	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports contain the number of ballots cast.	Electionware Election Management System Sale

h. Number of votes counted per contest	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware reports contain the number of votes counted per contest.	Electionware Election Management System Sale
i. Number of votes per candidate or option	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Reporting module's reports and exports offer number of votes per candidate in various forms such as Electionware, by Precinct, by Precinct/Split, by District, by Ballot Style, by Polling Place.	Electionware Election Management System Sale
j. Number of votes per candidate or option by category (i.e., Election Day, Absentee In-Person, Absentee by Mail, Provisional, etc.)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Reporting module provides reports and exports with the number of votes per candidate and by Vote Type also known as Reporting Groups.	Electionware Election Management System Sale
k. Number of precincts	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The Election Summary report contains the total number of precincts in the election.	Electionware Election Management System Sale
l. Number of precincts reporting	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The Election Summary reports the percent of reporting precincts.	Electionware Election Management System Sale
m. Number of registered voters	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The Election Summary report contains the total number of registered voters.	Electionware Election Management System Sale
n. Be capable of producing periodic unofficial and incomplete election summary results on election night without disrupting ongoing functions of the EMS.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Yes. The user can print unofficial and incomplete results at any time.	Electionware Election Management System Sale
o. Be capable of generating election night export files for transmission to the GASOS without disrupting ongoing functions of the EMS.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Our results accumulations software has several export capabilities that will produce results. It provides ASCII exports, as well as multiple other formats such as CSV, XLS, PDF, XML, HTML, and TXT. It also can export the reports (election district, summary, or canvass/spreadsheet) in HTML format so that they can be directly posted on the State's website. There is also a web menu tab that allows	Electionware Election Management System Sale

		each county to format their own results displays and use the various menu selections to upload the initial election-specific data (election districts, contest, candidates, etc.) and then populate results. These exports can be performed at any time on election night, and used to update the state's website. Some ES&S customers choose to export this information at a set interval.	
p. Be capable of generating a report that details precinct level results of all contests.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware contains a Precinct Report (list of individual precincts and contest results for each precinct) and an Election Summary Report (voting results for all candidates, all contests). For both reports, the user can select the precincts or contests to include in the report. Electionware also offers a number of canvass reports to present the election night reports in different formats.	Electionware Election Management System Sale
q. Allow authorized users the ability to customize election summary reports (i.e., alter headers, alter counter groups and/or specific districts/precincts displayed).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	In addition to Electionware's standard reports, users have the ability to create their own reports that meet their specific needs. These reports may be created prior to the election, allowing the user to save time and reducing the amount of work to be performed on election night. What's more, these customized report parameters remain on the system and may be used in all future elections.	Electionware Election Management System Sale

2. Election Management System (EMS) Describe all answers regarding your EMS solution. The proposed EMS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Narrative:

NARRATIVE

ES&S' Electionware® election management system (EMS) is a fully integrated software application that allows Georgia jurisdictions of all sizes to securely manage their elections through the software's intuitive, easy-to-understand user-friendly interface. With Electionware, users can create the election information database, format ballots, program ballot scanning equipment, create voice files, count ballots and generate results reports.

Electionware is a fully integrated election management software application that will allow the State of Georgia to complete election management tasks through a uniform user experience. It has a powerful and intuitive interface and a single, common relational database.

ELECTIONWARE: KEY FEATURES & BENEFITS

- ✔ **Efficiencies.** Electionware eliminates wasted effort on unnecessary tasks —resulting in faster ballot creation and layout, and faster election programming. Electionware's single database ensures consistency across ballots and machine programming.
- ✔ **Ease of Use.** Electionware is easy to master because its features and actions are logically organized based on election workflow and an integrated database. The design accommodates the latest in election trends, including early and overseas voting, ADA compliance, ballot adjudication and Election Night reporting.
- ✔ **Security.** To protect your election data, Electionware incorporates the latest in security best-practices, including built-in heightened audit controls and change management processes. Each Electionware user is easily assigned personal login credentials and level of access. Electionware maintains a detailed audit record of all actions and events, along with the username and timestamp, that occur on the unit, including log-in attempts, election definition, ballot preparation and results processing.
- ✔ **Single User Interface.** Personalized based on jurisdictional needs, the Electionware dashboard provides access to five software groups—each one representing a stage of the election creation process: Define, Design, Deliver, Results and Manage. Stepping through each module allows the user to proceed with election creation ensuring key steps are managed systematically. These powerful capabilities enable election administrators to create error-free elections in less time.
- ✔ **Help System.** Electionware contains an interactive, comprehensive help system that empowers election administrators to find answers to common questions easily.
- ✔ **Election Results Reporting.** Electionware's Results software includes the Reporting module that generates paper and electronic reports for election officials, candidates and the media. Reporting enables the user to read data from the tabulators, customize report formats, and accumulate accurate election results.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-2 EMS VALIDATION

2.2 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

ES&S provides documentation included in the Technical Documentation Package (TDP) that details the process for customers to perform a Hash Code Validation. All proposed equipment is capable of automatically producing a Hash Code to be compared to the Hash Code supplied by certification authorities. A hash check can be run by the jurisdiction at any time to ensure that the firmware and operating system code on the equipment and software is identical to the hash code approved by certification authorities. Successfully completing this validation on all equipment and software provides confidence that the firmware and software exactly matches the files in the certified source code.

Election Management System (EMS) Election administrators may use access control and role assignment features within the software to restrict access for programs installed. Counties must physically secure any computer system that contains ballot definition files, data acquisition software, or reporting software from access by unauthorized persons.

All ES&S memory devices used are encrypted to prevent unauthorized modifications or copying of data. Our ballot layout and election configuration data are secured to prevent unauthorized modification or copying of the data and to resist hacking and unauthorized access and use.

As an original manufacturer, ES&S will release security patches as we deem necessary and provide a prompt, written notification to State officials in the event of a necessary release.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-3 EMS AUDIT

2.3 Describe the proposed EMS' post-election auditing capabilities.

ES&S RESPONSE

The ES&S system will allow counties to effectively and efficiently audit election results while maintaining the secrecy of the ballot.

The ES&S system meets stringent requirements for system audits to provide the supporting documentation for verifying the accuracy of reported election results. The DS450/DS850 central tabulator can be used to rapidly perform recounts. Our system includes detailed audit logs, digital images of the ballots or vote summary cards with electronically linked Cast Vote Records (CVRs), paper records, and central tabulator batch/bin reports.

DS450/DS850 AND RECOUNTS

The DS450/DS850 central tabulator can be used to rapidly perform a recount of paper ballots and vote summary cards.

If a subset of ballots needs to be counted, the Electionware election management system can quickly identify the Election Districts and ballot styles associated with the recounted contest. Electionware software provides a powerful means for restricting the election definition to a subset of contests or Election Districts specified for a particular recount.

This definition can be loaded on the DS450/DS850, allowing for sorting and/or recounting of the ballots in question as permitted under a jurisdiction's election law.

AUDIT LOGS

The ES&S voting solution contains audit logs with sufficient information to allow the auditing of all operations related to election and ballot setup, ballot tabulation, results consolidation and report generation. The system audit logs are created and maintained by the system in the sequence in which operations were performed.

All audit logs contain an identification of the program and version being run, identification of the election file being used, record of all operator entries, record of all actions performed by the system or subsystems, record of all tabulation and consolidation input and a record of all ballot or system overrides performed. Only an authorized system administrator can locate, read and print the system audit logs.

The machine audit logs for all proposed voting machines list every event that occurs from the time you load your election definition via the USB media drive until you remove the media after the election is complete. These events, which are tagged with time and date, include election-related events, errors and user interactions. The machine audit logs retain entries from all internal components capable of producing an audit log entry, such as the power management board, the hardware board and the election processing firmware. The audit logs from every unit used in the election can also be centrally viewed or printed in Electionware.

The Electionware election management system itself creates an audit log that includes all logins and actions performed by each user while logged into the application, including all results database creations, file exports and imports, report printing and results updating processes. This audit log is maintained intact from the initial start of the election cycle to the reporting of official results. In addition to the main audit log, two additional audit logs are maintained for the logging and tracking of results entered via the provided manual entry feature and when last-minute changes are made to contest and/or candidate names within the module.

Electionware audit logs are maintained as an archive with every election backup. They include entries that identify the exact change, the date and time of the change, the user ID, and the module impacted.

BALLOT IMAGES/CAST VOTE RECORDS

The units providing tabulation functionality can also capture digital images of each ballot or vote summary card cast and associated Cast Vote Record (CVR), which also can be used for recounts and adjudication.

To ensure security and protect voter anonymity, the ballot images and CVRs are stored with random names assigned to each ballot image file and have their file timestamps obfuscated. Electionware provides online adjudication that retains both the CVR as initially tabulated and the adjudication board's modified CVR. The ballot image, the machine-generated original CVR, and the review board-modified CVR can be reviewed alongside each other.

PAPER TRAIL

The paper ballot or vote summary card also provides an audit trail that is available to counties in the event a recount, including manual recount, is required.

CENTRAL TABULATOR BATCH/BIN REPORTS

The DS450/DS850 central tabulator provides batch/bin reports with information about the ballots in each output bin at the time a batch is saved. The batch/bin reports contain ballot totals for a sort bin for the last batch saved. If ballots have been outstacked to the not-processed bin, the user can view or print the corresponding bin report on demand, which indicates why each ballot in the bin was outstacked. A user can manually print reports on demand or set batch/bin reports to print automatically when a scanned batch of ballots is saved. These reports can be maintained with the physical ballot batch to speed identification and retrieval for audits and recounts.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-4 EMS VIRTUAL

2.4 Define how the proposed EMS can be virtualized to run on GASOS and county virtual operating system (OS) environments.

ES&S RESPONSE

The EMS is certified to run on a hardened, closed network for official results to ensure the security of your system is fully tested and approved by the EAC. The certified EMS solution includes the use of physical hardware, including workstations and servers. Some jurisdictions choose to run a parallel network outside of certification for unofficial results.

Furthermore, ES&S has standardized on EMS hardware that we recommend to our customers. This hardware is used for internal and third-party testing to ensure compatibility and reliability with the EVS release. As a result of this testing and the confidence gained from it, ES&S uses these hardware models when creating EMS network solutions and their related quotes. ES&S customers can be confident that the recommended hardware that is quoted as part of the EMS configuration has been fully tested for each EVS release.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-5 EMS PROVISIONAL

2.5 Describe how the proposed EMS configures BMD, PPS, and CSD for provisional balloting.

ES&S RESPONSE

Any provisional ballot that is given to a voter would follow local rules for ballot handling. We understand that in Georgia, the voter's ballot is not tabulated on Election Day, but rather kept separate so that the voter's registration status can be verified post-Election Day.

If a provisional ballot is deemed to be valid, that ballot can be tabulated on a tabulator, or the results can be manually added to the reporting software. As an added protection, the reporting software features an activity log dedicated to tracking manual adjustments such as these, recording each event in significant detail.

Should a jurisdiction need or want them, Electionware makes it easy to create separate ballot styles for provisional voters. These ballots can then be scanned and tabulated as a separate provisional group in our reporting software or as a part of the absentee, early voting or Election Day totals.

The ExpressVote can be configured to accept all ballot styles applicable to a county. As a result, provisional voters appearing at the wrong precinct, could receive their correct ballot style, that would not be accepted by the DS200 precinct tabulator programmed for that precinct. This allows the voter to mark his/her correct ballot style, while preventing county election staff from having to manually duplicate provisional ballots post-election. Provisional ballots marked on the ExpressVote would be treated by poll workers in the same manner hand-marked provisional ballots are today.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-6 EMS EASE OF USE

2.6 Ease of Use for GASOS and Local Election Officials: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

Please see the included case studies.

UTAH INCREASES VOTER CONFIDENCE

through verifiable ballots and better audits

In the early 2000s, election officials across the country purchased new voting systems thanks to the Help America Vote Act (HAVA). At that time, the State of Utah chose to use their HAVA grant dollars to purchase optical scanners and direct-recording electronic (DRE) voting machines.

Fast forward to over a decade later: vote by mail has become the norm for most counties across Utah. In fact, the majority of registered voters in the state automatically receive a ballot in the mail. While the machines were standing the test of time, the increased popularity of vote by mail was starting to put a lot of pressure on the decade-plus old system that was originally designed for in-precinct voting.

In addition to managing aging voting systems and changes in voting trends, election officials in Utah were facing higher expectations for security and reliability.

The expectation being all voting machines should have the ability to audit and verify that a voter's ballot was recorded and tabulated in accordance with the voter's intent.

In the fall of 2017, the State of Utah designated Election Systems & Software (ES&S) as the state's election management provider of choice. After their extensive assessment of five different election systems providers, the State's evaluation committee determined that ES&S would provide the best value to the State.

"Through a careful and thorough procurement process, the state of Utah has chosen ES&S to lead Utah into the next generation of voting equipment. ES&S offers a wide range of voting equipment options, and I'm confident their secure and innovative election solutions will fit the needs of each county," Utah State Lieutenant Governor, Spencer J. Cox said (October 2017)

Through their extensive assessments, the State Evaluation Committee determined:

- ES&S' Electionware election management system provides a more efficient and intuitive process for ballot layout and design, as well as import and export capabilities.
- ES&S has a tabulation solution for every Utah county, all of which reduce ballot processing time and provide an efficient process for adjudicating ballots.
- ES&S ExpressVote universal voting solution combines paper-based voting with touch-screen technology to meet the needs of voters with disabilities as well as provide a permanent paper record.
- ES&S's longevity, financial stability and reputation position it as the best option to support a roll-out of new equipment in multiple counties in Utah simultaneously, and provide support and maintenance plans at different levels of service and price points.

The Old Utah



Approximately 650
Direct-Recording Electronics
and Optical scanner units



Approximately 940
Direct-Recording Electronics
and Optical scanner units



Approximately 156
Direct-Recording Electronics
and Optical scanner units

ES&S SOLUTIONS

EASY EQUIPMENT SETUP

While nearly every registered voter in Utah receives a ballot by mail, registered voters may still vote in-person on or before Election Day. In Utah, accessible voting centers are available for voters with disabilities who need assistance completing their ballot and registered voters who prefer to cast their ballot in person during early voting and on Election Day.

Weber County Elections Director Ryan Cowley was impressed with the set-up process for their new ES&S equipment. "Way, way easy. The poll workers love the easy set up — remove the locks, verify the label and lift the lid. They can focus on making sure the polling place is organized, rather than rushing to get equipment set up. It's a huge time savings. Polling place set up is not a big deal anymore, it's so simple."

"The ES&S ExpressVotes are just so much easier to use. Before, we were spending hours and hours setting up the equipment on election morning," Summit County Clerk, Kent Jones said. "On Election Day, we use the ExpressVote as a ballot marker. Voters mark their selections, print their vote summary card and then those cards are tabulated together with the ballots that came in the mail. Everything's done centrally, so we handle and see everything."



The New Utah



- (18) Ballot on Demands
- (2) DS450s
- (14) DS200s
- (9) ExpressVotes



- (27) Ballot on Demands
- (2) DS450s
- (19) DS200s
- (25) ExpressVotes



- (1) DS450
- (18) ExpressVotes

FAST, SECURE BALLOT TABULATION

With the move to vote by mail, Utah officials needed to use the optical scan machines to process election results. Utah's old optical scanners, which were originally purchased to tabulate a small number of absentee ballots, required each ballot be hand fed into the machine.

"For the 2016 presidential election, Davis County mailed out 150,000 ballots and had a total vote turnout of 140,000. We ran all 140,000 ballots by hand through four older optical scanners, one at a time. It was very labor-intensive," Davis County Elections Manager Brian McKenzie said. "With the ES&S DS450 we can just put them in a stack and let them run."

With their old optical scanners, Davis County had four staff members counting ballots full time. With their new ES&S DS450, they have one-to-two team members who spend about a fourth of the time counting ballots.

McKenzie said, *"We can keep two of the DS450s running with one, one and a half people. As one person, I couldn't work as fast as the machines."*

IMPROVED POST-ELECTION AUDITING AND ADJUDICATION

When Utah counties started using DREs in the early 2000s, the state began requiring post-election audits. Typically, the process required a team of three people to audit each machine — one person to read the tape and two people to simultaneously record votes, making sure counts matched throughout. On average, the process took about two hours.

"I have to say that I could not be more pleased with how this (ES&S) system performed and counted the ballots. Being able to compare not only how the system originally counted a ballot, but also how the ballot was adjudicated, back to the digital image of the ballot itself is truly amazing. For the first time in my career, I feel like we have a transparent and auditable system," Cowley said.

"Compared to our previous system, thanks to auto adjudication we had far less to look at. We were inspecting every ballot before we ran it through the old optical scan machine. We didn't do any of that this time - we just ran them through," Jones said.

COMPREHENSIVE ONBOARDING AND TRAINING

Utah's onboarding process with ES&S was under a compressed timeline. ES&S onboarded 19 counties in 3-4 months.

"We changed everything except for voter registration — every piece of equipment that we used to process ballots was brand new. New accessible machines, new Ballot-on-Demand machines, new precinct tabulators, new central count tabulators, and new adjudication and audit process and procedures," Cowley said. "Receipt of the equipment and the training was all very timely. The ES&S team worked with about 50 people from 21 counties demonstrating each piece of equipment — leading detailed discussions about the equipment and how we saw it working for us. The team also helped with creating new policies and procedures. We received



"When we (Davis County) did our previous audits, we would only audit the races we were required to. With the new system we figured, the whole ballot is there, let's just look at everything," McKenzie said. "We did a full audit of the entire ballot, for all races. It was a more thorough audit, it covered all the races, and it only took two hours. We were just like, 'wow, it's so much better.'"



lot of support up front, and then we're able to take that and run with it."

McKenzie said, "Our experience from the beginning up to this point with ES&S has been phenomenal. Starting out, just getting to know the ES&S system went really well, and we were so impressed with the information ES&S could provide, coupled with the general feel of professionalism of the ES&S team. The organization and logistics when we were implementing the new system was really really good, the coordination of taking out the old equipment and bringing in the new equipment, the training, the people who came in and set us up and answered any questions we had, was great."

"Learning about the new equipment was probably the easiest transition it could have been. There wasn't a huge learning curve. ES&S simplified everything," Jones said. "We spent more time teaching the judges about the signature verification process than it took to learn the equipment."

CUSTOMER SERVICE EXCELLENCE

ES&S integrates good customer service into every aspect of our business. Our enthusiasm for the work we do and for our customers is unrivaled. ES&S' team of seasoned election professionals are empowered to think on their feet and work closely with our election administration partners to customize secure and innovative solutions to fit their needs.

Davis said, "The one thing that I would just sing praises to is the customer support – when we've had to call in with any type of question, whether it be concerning software or hardware support – the people on the other end of the line were phenomenal. I've personally experienced several instances where they have gone above and beyond. There was one time when I called in, it was near end of business day, and they gave me a solution. They made themselves available after their own hours to follow up and make sure we were able to implement the solution. All of them are so good at asking questions to make sure they fully understand the situation, and then they walk you through the process. Never have I felt like I was wasting their time and never are they frustrated. I can't say enough good things about the customer support. We've had really good experiences with everyone from ES&S. If someone has a bad experience with ES&S, you'd hear about it – and we don't."



"I'm going to brag about ES&S for a little bit," Weber County Elections Director Ryan Cowley said. "One of the things I think you guys always nail is customer support. With our previous vendors there was literally no support — things like trying to get parts and supplies, we just didn't get anything. The level of support we get from ES&S is a cultural thing — it's all about making sure you get the customer what they need. There is a much higher customer-service philosophy at ES&S."



Enhancing Elections in WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the [ExpressVote](#)® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the [DS200](#)® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.
- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.
- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.
- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.
- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.
- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."
- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.



Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

- User friendliness
- Paper records adding clear voter intent
- Ease of mind having a paper back-up
- Attractive system from an administrative standpoint
- Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

“What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product” Tammy Smith, Assistant Administrator, commented. “During a visit after that, we told them we were looking for products and couldn’t find them. The next time we saw them, they brought us a catalog!”

“Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote.”

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren’t familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.



In light of this, Wilson County makes sure that updated technology isn’t a barrier for those looking to serve yet not matching the required skill set level. “We try to configure our poll place system in a way that if they aren’t good with computers we can find a place for them if possible on Election Day” Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county’s comparison of the system to a grocery store self check-out. “Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It’s so organized people can almost go through the process on autopilot.”

One, who indicated she had a computer background, complimented the start to finish technology integrations. “Going from a more manual process of selecting ballot styles for people, this is much preferred. There’s no real error, you just print their barcode and they follow the instructions on screen from there.”

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

"We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

- Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our [website](#).



Results

- 1 Smoother canvass and hand count
- 2 Reduced number of morning follow up calls
- 3 Success means that results are ready 2-3 hours sooner



Susan Thomas, Harrison County Clerk



“All you have to do is touch your selections, check your printed ballot and put it into the tabulator.”

“**Georgianna Thompson,**
Taylor County Clerk

“Commissioners were not excited about spending the money. I was fully prepared to continue maintaining the old equipment. The ExpressVote convinced them that it will pay dividends in the future.”

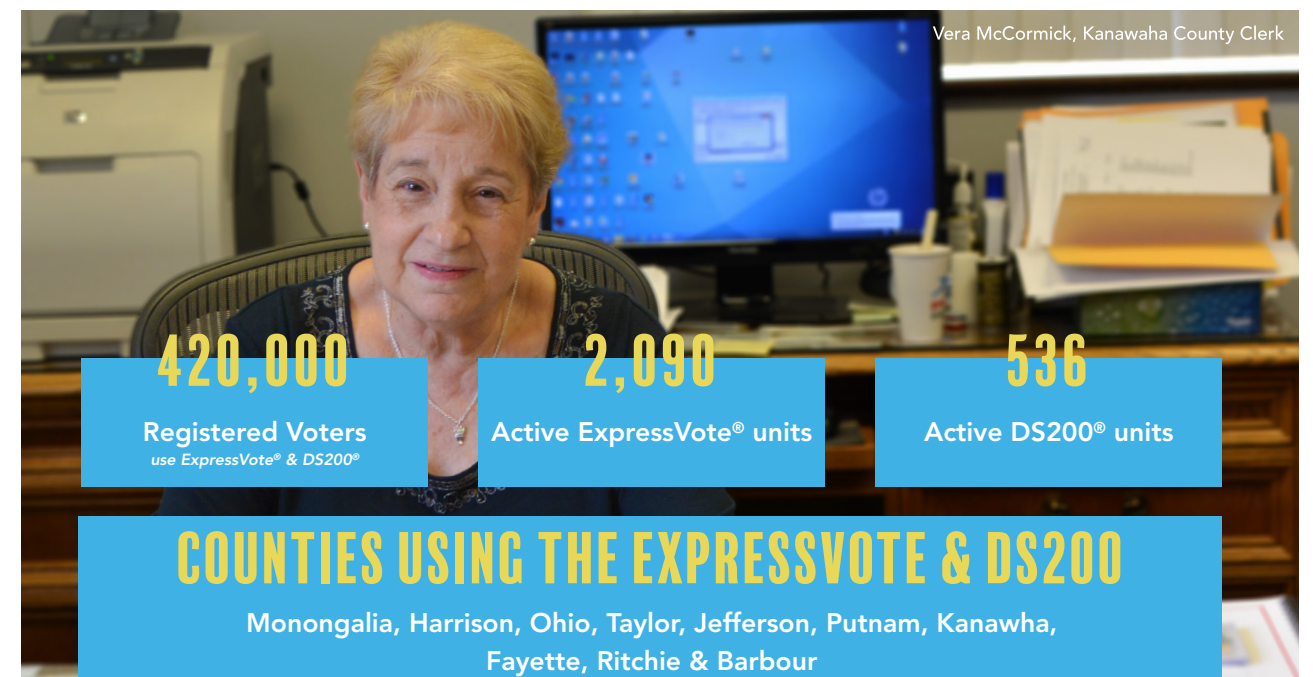
“**Brian Wood,**
Putnam County Clerk

SEE FOR YOURSELF!
Call to request a demo!

HOW WEST VIRGINIA'S Election Officials Are Reducing Costs

While Improving the Election Experience for Voters & Poll Workers

Many voters across the U.S. are casting their ballots on a generation of aging, decade-plus old optical scan and direct-recording electronic (DRE) voting machines. Election officials nationwide rushed to embrace new voting technology after Congress passed the Help America Vote Act (HAVA) in 2002, which addressed the way ballots were designed, cast and counted, and led to an overhaul of the U.S. election system and eventually the birth of the DRE and optical scan machines. **Ten plus years later another major overhaul of the U.S. election system is underway, and a number of states are seriously considering a return to paper-based voting systems.**



Vera McCormick, Kanawha County Clerk


*stats are current as of October 2017

As with many states in the early 2000s, West Virginia faced various challenges related to becoming compliant with HAVA. At the close of the 2005 West Virginia Legislative regular session, during which a voter-verified paper trail bill was signed into law, Secretary of State Betty Ireland began her search for a pioneering elections partner that could help West Virginia do three things: 1) meet the requirements of HAVA, 2) reduce the financial burden of becoming compliant off the counties as much as possible, and 3) offer counties quality voting system options.

In August 2005, ES&S was awarded the statewide contract to provide all of West Virginia’s counties with voting systems and election services. And in 2006, just over half of West Virginia’s 55 counties, whose County Clerks manage elections at the local level, purchased DRE systems while the remaining chose to purchase optical scan voting systems paired with central scanners, creating a dual system environment across the state.

Why the change?

Fast forward ten more years, similar to many states across the U.S., while their existing voting systems were withstanding the test of time, West Virginia’s jurisdictions began the process to find a more modern system that offered a paper-verifiable record.



“Our equipment was aging. Having partnered with ES&S for ten plus years, we knew they were always developing solutions that made our lives easier and were more efficient, dependable and cost-effective.”

“The ExpressVote® was the best of both worlds with the electronic aspect, including improved visibility and ADA compliance, along with the paper verification where the voter can hold their selections in their hands, confirm everything is accurate, and then place it in the DS200® ballot slot.”

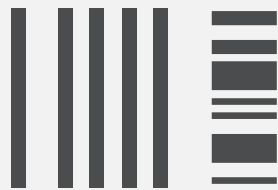
Brian Wood, Putnam County Clerk


They were also ready to put away the challenges associated with their aging equipment and find a solution that simplified election management and improved voters’ experience at the polls. Much like the avid flip-phone users, whose carriers still supported their phones, and whose flip-phones still made calls — they ultimately realized how much easier and more efficient their life could be if they had a smartphone.

“So much less to worry about and less upkeep. We no longer have to deal with all of the different consumables,” said Susan Thomas, Harrison County Clerk. “You plug them in, flip a switch, lift a screen and both are powered up within five minutes. Plus, with ExpressVote and DS200 everything is a lot simpler for us on the backend.”

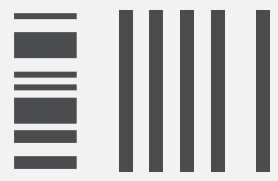
It was important to them that their new equipment made the backend of their elections easier for not only themselves and their teams, but the poll workers as well. Equipment that wasn’t hard to haul around, was easier to program and would ease the burden of having to hand count write-in and canvass ballots.

“The ballots marked on the ExpressVote require less storage due to their size, and the leftover blank cardstock can be reused in other elections. We can do satellite voting now, and don’t have to carry all of those preprinted ballots with us.”





Vera McCormick,
Kanawha County Clerk



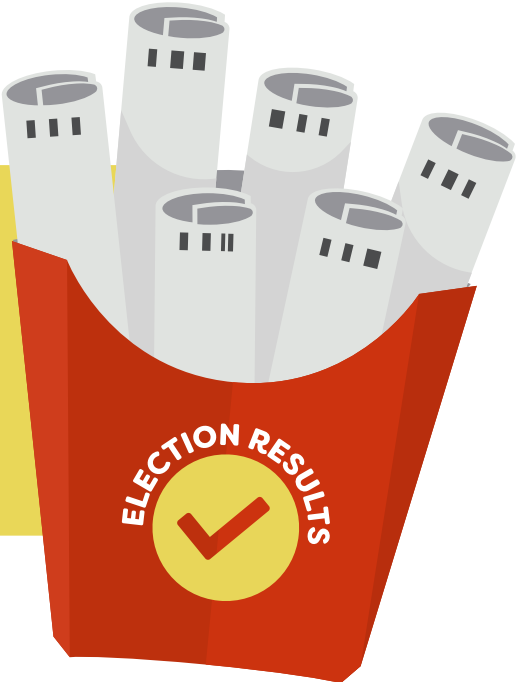
“Canvass and hand count went very smoothly; the ballot was easy to read and easy to determine the voter’s intent. NO OVERVOTES!”

The clerks wanted a truly usable summary report of the final results, a more robust in-depth audit report. They wanted to deliver their county’s election results before 3 a.m. so the candidates and the people who had worked so hard supporting them could either get their parties started or start picking up campaign signs.

“We live in a fast food world, and people want their results right away”

“The candidates and their supporters have worked for a long time to get there, so they are very anxious to get the results. So is the media ... it’s nice to give them what they need, and get them back to work by 10 p.m. instead of 3 a.m.”

Brian Wood, Putnam County Clerk



Most importantly, they wanted every one of their voters to have a consistent, simple and secure election experience. This included having only one system to vote on, that was easy to use and that included a verifiable paper record that allowed them to confirm that the selections they marked were what they intended.

“We demo’ed the equipment in several different locations with seniors, many of which who were in their 90s. We didn’t really have to explain much to them as far as how to use it, and everyone liked it,” said McCormick. “They liked having a piece of paper in their hand that they could hold, so there was no guessing.”

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-7 EMS ADA

2.7 Describe how the proposed EMS will support the building of ADA accessible ballots.

ES&S RESPONSE

Electionware's Paper Ballot feature allows the user designing a ballot to preview a paper ballot onscreen throughout the creation process, including the final product.

Electionware also makes programming the ExpressVote very simple because the ExpressVote Accessible Ballot is automatically created as the Paper Ballot is being designed. This provides consistency and reduces the time it takes to create the ballot layout for more than one equipment type. A single source for ballot design also ensures that the same data is used once. This saves time on both layout and proofing.

Electionware includes an ExpressVote Previewer that provides an emulation of the ballot as it will appear on the ExpressVote Universal Voting System.

2 ELECTION MANAGEMENT SYSTEM (EMS)

2-8 EMS INTERFACE

2.8 Describe how the proposed EMS interfaces with upstream and downstream applications.

ES&S RESPONSE

ES&S' proposed system provides for a fully integrated voting solution upstream and downstream with the State's polling place equipment, absentee voting system and election management system. The devices that produce and process the absentee ballots are programmed from the same database and election definition used to program the other voting units.

The Electionware EMS uses one database to create the ballots and program all the equipment used for an election, whether it is used for absentee, early voting and/or Election Day voting.

3 POLLING PLACE SCANNER

3-1 PPS

Complete the attached form titled "Polling Place Scanner" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment J – Polling Place Scanner**.

Attachment J - Polling Place Scanner

Polling Place Scanner (PPS) Used in all polling places (Election Day and Absentee In-Person) for scanning, imaging, and tabulating ballots generated by a BMD, and for scanning, imaging, and tabulating Absentee by Mail and Provisional ballots (when needed), and conducting post-election audits. Describe all answers regarding your PPS solution. The proposed PPS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Capabilities			
a. Allow for election configuration information loaded via encrypted removable memory device created by the EMS or through a direct connection to the EMS through a secured LAN.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Election definition files and results on removable USB memory devices are encrypted using military-grade encryption: FIPS-compliant Advanced Encryption Standard (AES) encryption. ES&S employs strong encryption to FIPS 140-2 standards. Data is transferred to/from the EMS via USB memory devices.	DS200 Precinct Scanner & Tabulator Sale
b. Provide ability for user to conduct pre-election testing on all functions of the PPS with the outputs of the testing stored both internally by the PPS and on the encrypted removable memory device loaded to the device, in addition being able to be printed by the device at the conclusion of pre-election testing.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 polling place scanner provides the ability for county election staff to conduct pre-election testing on all functions of the device with outputs of the testing (election definition, cast vote records, ballot images, and audit data) stored to its encrypted, removable memory device. Optionally, when polls are closed during pre-election testing on the DS200, an additional USB memory device can be used to store a backup of all data found on the primary USB memory device. A pre-election testing results report can be printed. A configuration report can also be printed.	DS200 Precinct Scanner & Tabulator Sale

<p>c. Be able to print all reports (pre-election, election, and post-election).</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 can produce the following reports:</p> <ul style="list-style-type: none"> * Configuration: Lists hardware settings, election settings, storage capabilities, firmware, election information, and exception ballot settings * Zero Totals: Displays that contests/questions have zero votes when polls are opened * Voting Results: Public or Detailed - Lists device serial number, poll opening/closing time, and summary results of each race including write-ins. * Write-in Review: Lists digital images of each write-in vote, along with a voting session number, reported by contest, in the order in which those contests appear on the ballot. * Event (Audit) Log Report: Lists all the scanner events that occur from the time you load your election definition USB flash drive into the scanner until you remove the flash drive after the election is complete * The Event Log Summary Report: Condensed version of the Event Log Report. * Ballot Status Accounting: Provides accounting of the paper ballots and ExpressVote cards used in an election. This report also provides counts of each ballot and card style scanned * The Daily Ballot Status Accounting: Provides daily ballot counts across a multi-day voting period, such as an 	<p>DS200 Precinct Scanner & Tabulator</p> <p>Sale</p>
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		<p>Early Voting period</p> <p>* System Log: Used by certified technicians during maintenance and repair</p>	
d. Utilize an on-board touchscreen interface to securely access the functionality of the device as required for pre-election setup, testing, election operational use (opening and closing of the polling place), and post-election use.	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 features an interactive 12-inch LCD color touchscreen and messages and prompts (both visual and auditory) to assist workers and voters.</p> <p>During voting, situations that require voter or election-worker interaction are displayed clearly in plain text on the DS200 digital scanner's touchscreen, and are supplemented with an audible warning signal. All messages are displayed in easily-understood text.</p>	<p>DS200 Precinct Scanner & Tabulator</p> <p>Sale</p>
e. Secure access to internal memory and removable memory components.	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>Like all ES&S ballot tabulation equipment, the terminal includes physical security features such as locking panels and security seals to secure sensitive components and election files, and a key locked case for transport and shipping.</p> <p>The DS200 secures all data ports behind lockable and sealable access doors to protect access and allow election officials to easily detect unauthorized access. Controlled keys and unique locks, security seals, and security screws eliminate system tampering during storage, transport and use.</p>	<p>DS200 Precinct Scanner & Tabulator</p> <p>Sale</p>
f. Secure access to the ballot receptacle.	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 plastic ballot bin contains two lockable and sealable ballot compartments, one large compartment that holds a removeable tote bin liner that securely stores scanned ballots. The tote bin liner can be removed after polls close to securely transport ballots back to election central. The tote bin liner eliminates the need for poll workers to physically handle the</p>	<p>DS200 Precinct Scanner & Tabulator</p> <p>Sale</p>

		scanned ballots. The bin's wheels and retractable handle allow for easy transport. Additionally, the DS200 plastic ballot bin contains a smaller compartment for auxiliary ballots.	
g. Provide instructions to poll workers and voters through the on-board touchscreen interface.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 features an interactive 12-inch LCD color touchscreen and messages and prompts (both visual and auditory) to assist workers and voters.</p> <p>During voting, situations that require voter or election-worker interaction are displayed clearly in plain text on the DS200 digital scanner's touchscreen, and are supplemented with an audible warning signal. All messages are displayed in easily-understood text.</p>	DS200 Precinct Scanner & Tabulator Sale

Attachment J - Polling Place Scanner

Polling Place Scanner (PPS) Used in all polling places (Election Day and Absentee In-Person) for scanning, imaging, and tabulating ballots generated by a BMD, and for scanning, imaging, and tabulating Absentee by Mail and Provisional ballots (when needed), and conducting post-election audits. Describe all answers regarding your PPS solution. The proposed PPS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
h. Scan all ballot types (i.e., ballots generated by BMD, optical scan ballots printed on-demand or pre-printed).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 can scan ballots generated by the ExpressVote ballot marking device, and optical ballots printed on demand or pre-printed.	DS200 Precinct Scanner & Tabulator Sale
i. Record and tabulate the voter selections from each ballot scanned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans the entire ballot (front and back) in under three seconds, interprets voter selections and either accepts the ballot, storing a cast vote record and scanned ballot image; or identifies and alerts the elector to configurable ballot handling exception conditions such as undervotes, overvotes, blanks, and mismarks with large, easy-to-read system messages and audible alerts. The DS200 provides instructions for resolving any ballot issue, vastly improving voter oversight and accountability. As the DS200 records ballot choices, the scanner stores a high-resolution image of the entire ballot and cast vote record to the inserted USB flash drive.	DS200 Precinct Scanner & Tabulator Sale
j. Record and tabulate only those ballot styles specific to the current Election the PPS has been configured.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 will only record and tabulate candidate votes that have valid ballot styles ID's for current election and polling place.	DS200 Precinct Scanner & Tabulator Sale
k. Collect digital images of every ballot scanned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	During the election setup in Electionware, the user may decide to use the Capturing Image feature to save	DS200 Precinct Scanner & Tabulator Sale

		all ballot images, no ballot images, or only those ballot images with write-ins.	
I. Scan ballots of the following lengths:			DS200 Precinct Scanner & Tabulator Sale
• 11 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans 11-inch ballots in any orientation.	DS200 Precinct Scanner & Tabulator Sale
• 14 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans 14-inch ballots in any orientation.	DS200 Precinct Scanner & Tabulator Sale
• 17 inches	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans 17-inch ballots in any orientation.	DS200 Precinct Scanner & Tabulator Sale
• 18 inches	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		DS200 Precinct Scanner & Tabulator Sale
• Other	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans 19-inch ballots in any orientation.	DS200 Precinct Scanner & Tabulator Sale
m. Be capable of scanning one-sided ballots, two-sided ballots, and multi-page ballots while recording the event as one ballot cast.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 can handle one-sided ballots, two-sided ballots, and multiple-page ballots. When reading a one-sided ballot, two-sided ballot, or multiple-page ballot, the tabulators record page one in a multiple-page ballot as an indicator of a ballot being cast.	DS200 Precinct Scanner & Tabulator Sale
n. Accept ballots in any of the four possible orientations: top side up, top side down, header in first, footer in first.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 is capable of reading and scanning ballots in any orientation (portrait, landscape, backwards, upside down, etc.). In fact, the units will scan ballots with opposing orientations (i.e. portrait on the front side and landscape on the back of the ballot). Both sides of the ballot are processed simultaneously with high-resolution scanners and the resulting ballot images are decoded by a proprietary recognition engine. Once voter selections are processed, the ballot is dropped into a secure ballot box.	DS200 Precinct Scanner & Tabulator Sale

o. Scan and properly tabulate ballots cast and report the results collected back to the precinct and split-precinct level to which the ballots were associated.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 tabulator does scan and tabulate the ballots cast and can combine vote totals into the overall precinct totals, and can be collected at the precinct and split-precinct level.	DS200 Precinct Scanner & Tabulator Sale
p. Maintain an audit log of each activity occurring on the PPS that includes at least the following:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 can print an audit log report (Event Log) that lists all events (errors, alarm conditions, exceptions, and user-initiated functions) that have occurred on the system from the time an election worker inserts the unit's memory device into the machine until it is removed. Each event appears in the audit record with a date and time stamp.</p> <p>The DS200 Event Log retains entries from all internal components capable of producing an audit log entry, including the power management board, the scanner hardware board, and the election processing firmware.</p>	DS200 Precinct Scanner & Tabulator Sale

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<ul style="list-style-type: none"> Date/time of the event 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	For each action performed by the unit, and each tabulation input event, the reports display the date and time of the event and a message identifier. The Event Log also includes technical information about system actions, such as when Intelligent Mark Recognition (IMR) technology is activated for a submitted ballot, when the polls are opened or closed and when reports are printed.	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Description of event 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	For each action performed by the unit, and each tabulation input event, the reports display the date and time of the event and a message identifier.	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Tabulation timestamps 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Every ballot cast is assigned a random 16-byte identifier and all the ballot Cast Vote Records (CVR) and ballot images are stored with the same timestamp. This effectively decouples any association of the ballot to the voting order to guarantee voter privacy.	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Device serial number 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Each DS200 scanner has a unique serial number both physically affixed to the rear of the unit and programmed into the unit making it available to the scanner firmware. This serial number is reported as part of the various reports generated by the scanner, including the configuration, results, and audit reports	DS200 Precinct Scanner & Tabulator Sale

		as well as included in the logging function. The serial number is also part of the results data written to removable media and is provided to the EMS reporting software.	
q. Recognize a ballot with overvotes or undervotes and further:			DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Provide visible message concerning the recognized condition on the on-board touchscreen. 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200's interactive LCD color touch screen provides concise, easily understandable voting directions and messages when an under-vote, over-vote, or blank ballot is encountered per the jurisdiction's settings. No staff explanation is required. Alerts are provided in plain text.</p> <p>Voter-facing messages for ballot exceptions may be configured in Electionware by the county. They may be configured to reject the ballot and return it to the voter, to query the voter – allowing them to cast the ballot as-is – or to have the ballot returned for corrections. In any case, the touch screen displays a warning message and plays an audible alert. The DS200 then provides step-by-step instructions for resolving the exception.</p>	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Provide instructions to voter and/or poll worker on options to remediate or correct the condition. 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 tabulator can be programmed to notify and return ballots to voters who have either overvoted or undervoted.</p> <p>The DS200's interactive LCD color touch screen provides concise, easily understandable voting directions and messages when an under-vote, over-vote, or blank ballot is encountered per the jurisdiction's settings.</p>	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Provide the option to override the message and cast the ballot as marked. 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The election definition for the DS200 can be programmed to alert the voter of possible overvotes or undervotes as	DS200 Precinct Scanner & Tabulator Sale

		<p>follows:</p> <p>* Query the voter for correction but allow the voter to cast the ballot with overvotes or undervotes: The DS200 displays an easy-to-read screen message that describes the problem and allows the voter to either have the ballot returned to them for review and revision or have the ballot cast as-is.</p> <p>* Always return ballots with overvotes or undervotes to the voter: The DS200 will return the questioned ballot to the voter and display an easy-to-read screen message that describes the problem and prompts the voter to review and correct selections before re-inserting the ballot into the scanner.</p>	
r. Identify ballots that are not valid (e.g. voter issued incorrect ballot style, ballot unreadable) and further:			DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Provide visible message concerning the recognized condition on the on-board touchscreen. 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>Yes. The DS200 displays a message if the ballot is invalid due to incorrect ballot style or ballot unreadable.</p> <p>The DS200 provides step-by-step instructions for resolving any ballot issue. This vastly improves voter oversight and accountability, and dramatically reduces the number of invalid ballots cast during your election.</p>	DS200 Precinct Scanner & Tabulator Sale
<ul style="list-style-type: none"> Provide instructions to voter and/or poll worker on options to remediate or correct the condition. 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>Ballot Style: The DS200 only accepts ballots programmed for the ballot definition installed in the unit. Any ballot that does not match that definition will be rejected as invalid, including sample ballots.</p> <p>Unread Ballot: If the ballot has marginal or incomplete marks, the DS200 can be set up in the Electionware EMS to identify these</p>	DS200 Precinct Scanner & Tabulator Sale

		<p>ballots as follows:</p> <p>o Query the Voter for Correction: The DS200 displays a screen message that describes the problem and prompts the voter to either review and edit the ballot or cast the ballot as it is. If the voter selects Return, the ballot will be returned for correction of mistakes. If the voter selects Cast, the ballot will be cast as is and the unreadable marks will not count.</p> <p>o Always Accept: The Unreadable Marks screen will not appear. The voter will not be given the opportunity to review the unreadable mark. The remaining contests on the ballot will be tabulated appropriately.</p> <p>o Always Reject: The ballot will not be able to be processed until all mistakes are resolved.</p>	
s. Record write-in selections when write-in options are part of the configured election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ES&S system can program the tabulators such as the DS200 to recognize write-in content on the ballot, even if the voter failed to fill in the corresponding response oval. The feature can be used if local jurisdictional laws permit.	DS200 Precinct Scanner & Tabulator Sale

Attachment J - Polling Place Scanner

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t. Capture an image of the write-in name placed on the ballot when write-in options are part of the configured election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>During the election setup in Electionware, the user may decide to use the Capturing Image feature to save all ballot images, no ballot images, or only those ballot images with write-ins.</p> <p>When ballots are scanned, depending on the Electionware programming, the DS200 can store a graphic image of the scanned ballot, including write-in text, on the system's USB memory device. When the scanner detects a write-in vote, the system stores the write-in ballot image under a special file name to identify the image as a write-in ballot. Ballot images can be reviewed in Electionware. Ballot images can be filtered by various attributes, including displaying only ballots containing write-ins. The Cast Vote Record for the ballot image can be viewed beside the ballot image. Furthermore, Electionware can output a spreadsheet with an entry for each hand-written write-in snippet of the image containing the voters' marks.</p>	DS200 Precinct Scanner & Tabulator Sale
u. Tabulate results from ballots scanned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	ES&S tabulation solutions are the most robust and secure in the election industry. The DS200 units tabulate results on-site. When polls close, the	DS200 Precinct Scanner & Tabulator Sale

		results on the USB memory media are carried to Election Central to be read into the accumulation software on the reporting computer.	
v. Print tabulated results from PPS once the election has been ended on the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Once the poll is closed, the DS200 automatically prints the Results report for viewing. The unit can also be configured to automatically print three (3) copies of the results tape as currently required by Georgia law.	DS200 Precinct Scanner & Tabulator Sale
w. In the event of a power failure, be able to recover collected images and tabulations upon restoration of power.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 has a built-in backup battery. In the event of a power failure, the DS200 seamlessly reverts to the battery. Images will continue to be stored on the USB memory device inserted in to the DS200. Those images can be collected upon restoration of power.	DS200 Precinct Scanner & Tabulator Sale
x. Retain tabulated results from ballots scanned to redundant memory locations on the device, one location being the encrypted, removable media device created by the EMS for the specific election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All vote data, including tabulated results, and logs generated during the course of scanning ballots are stored on a USB flash drive that is safely installed under a security cover. The DS200 features an optional backup USB memory device in the rear access panel to provide a redundant memory location. This backup media is created upon poll close and protects against damaged or lost memory devices. Furthermore, the vote data is captured on the actual ballot itself, which is securely stored in the protective ballot box.	DS200 Precinct Scanner & Tabulator Sale
y. Retain collected digital images of every ballot scanned to redundant memory locations on the device, one location being the encrypted, removable media device created by the EMS for the specific election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All vote data, including digital images of every ballot scanned, and logs generated during the course of scanning ballots are stored on a USB flash drive that is safely installed under a security cover. The DS200 features an optional backup USB memory device in the rear access panel to provide a redundant memory location. This backup media is created upon poll close and protects against damaged or	DS200 Precinct Scanner & Tabulator Sale

		lost memory devices. Furthermore, the vote data is captured on the actual ballot itself, which is securely stored in the protective ballot box.	
z. Be capable of retrieving tabulated results and ballot images saved to the device's internal memory for the specific election, if the encrypted, removable media device becomes damaged or unreadable.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	An optional secondary backup USB memory device can be used in the rear access panel to create a redundant memory location. This backup media is created upon poll close and protects against damaged or lost memory devices. Placing the secondary USB in the rear of the DS200 and the primary USB under separate lock and key at the front of the unit provides an additional and enhanced layer of security for the DS200.	DS200 Precinct Scanner & Tabulator Sale
aa. Securely transfer information collected by the PPS back to the EMS using the encrypted, removable device or through direct connection to the EMS through a secured LAN.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	ES&S' results reporting program, Electionware, is used to accumulate election results data from all ES&S tabulation devices. The tabulators save the vote data to a USB flash drive. All vote data saved to the USB is digitally signed and encrypted with FIPS (Federal Information Processing Standards)-certified security functions. The USB flash drives are transported to the PC at Election Central with the results reporting program for upload and accumulation. All vote data stored on removable USB memory devices is digitally signed and encrypted with FIPS-certified security functions.	DS200 Precinct Scanner & Tabulator Sale

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bb. Operate on standard 110/120V AC power.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 operates on standard 110-volt AC electrical services and plugs into a standard three-prong grounded electrical outlet. The DS200 unit's input rating is 120V~50/60 Hz 2A.	DS200 Precinct Scanner & Tabulator Sale
cc. Contain an internal backup power supply that in the event of a power failure permits the device to continue normal operation for a minimum of two (2) continuous hours.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 contains an internal backup battery that maintains the system in the case of a power failure during the election process. The battery is a 21-volt, 10 cell lithium-ion battery that needs no special maintenance. The battery obtains its charge automatically from the system power supply any time the unit is plugged in – a separate charging device isn't required. It ensures complete protection from power failure and provides a minimum of three to four (3-4) hours of normal operation in the event of a power failure.</p> <p>The battery is floating on the system, meaning the battery kicks in immediately without system impact. When the battery gets low, the system will have a graceful shutdown to ensure no ballots are being scanned or data is being written to the USB memory device when it loses power completely. When power returns, a</p>	DS200 Precinct Scanner & Tabulator Sale

		recovery procedure allows voting to continue where it left off.	
dd. Maintain and display a visible public count of the total number of ballots scanned since the election opened.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 displays a public count that tracks the number of ballots cast between opening and closing the polls. The public count starts at zero and increases with each cast ballot.	DS200 Precinct Scanner & Tabulator Sale
ee. Display the device's serial number both physically and within any applicable software, logs, or reports.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Each DS200 scanner has a unique serial number both physically affixed to the rear of the unit and programmed into the unit making it available to the scanner firmware. This serial number is reported as part of the various reports generated by the scanner, including the configuration, results, and audit reports as well as included in the logging function. The serial number is also part of the results data written to removable media and is provided to the EMS reporting software.	DS200 Precinct Scanner & Tabulator Sale
ff. Provide the physical dimensions of the secured ballot receptacle to which the PPS would be attached during an election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The full DS200 dimensions are 24"W x 36.25"H x 26"D.</p> <p>The ballot box is a secure stand for the DS200. Ballots are scanned through the DS200 and are immediately passed into the sealed ballot box. The DS200 plastic ballot box has a single main bin and can hold 5,000 ballots. The auxiliary ballot compartment holds approximately 150 to 200 ballots.</p> <p>The dimensions are 35 ½"x24"x26" with an assembled weight of 45 pounds.</p>	DS200 Precinct Scanner & Tabulator Sale

<p>gg. Be capable of withstanding frequent loading and unloading, stacking and unstacking, assembling, disassembling, reassembling, and other routine handling in the course of normal storage, and distribution to and from polling locations.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>ES&S specifically designed, engineered and created all our voting equipment to be able to withstand the rigors that come with transporting, setting up, voting on, and tearing down of the equipment over and over. This equipment was built to last a minimum of 10-15 years while being the easiest, most voter friendly system in the industry today.</p> <p>The DS200's internal components are assembled in a rugged, impact-resistant GE C6600 – Polycarbonate Acrylonitrile Butadiene Styrene (ABS) plastic housing. The terminal's outer coloring is integrated into the plastic to prevent chipping or scratching on the outside surface. The DS200 has been tested and has successfully met specific Voluntary Voting Systems Guidelines (VVSG) minimum performance standards that simulate exposure to physical shock and vibration associated with frequent handling (loading, unloading, stacking, and heavy use) and transportation by surface and air common carriers. The DS200 plastic ballot box includes a hard clamshell case with rollers and a telescoping handle to protect the DS200 in transport.</p>	<p>DS200 Precinct Scanner & Tabulator Sale</p>
<p>hh. Continually conduct internal system diagnostics while in use and immediately report issues on the touchscreen interface</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 automatically performs internal system diagnostic checks when it is booting up. Automatic self-tests include checking the scanner software, checking the printer, and other system checks. If any of the system tests fail, failure is logged and the unit will not enter the vote mode. A report of the test results will be generated automatically. Reports include the automatic printing of the Configuration, Status, and Zero</p>	<p>DS200 Precinct Scanner & Tabulator Sale</p>

		<p>reports, which provide all the information needed to verify equipment readiness. Users also can print the audit log – a report showing all scanner operations since election definition loading. Additionally, the DS200 allows a technician to run a hardware diagnostic routine and configuration report from the Administrative menu. To detect and record every event and system error condition, all DS200 errors are displayed on the large touchscreen and if possible, the printer. Events and errors are also recorded to the audit log.</p> <p>The DS200 displays status and error messages on the terminal’s 12-inch color screen. Messages are displayed in full text or numeric format. All DS200 error messages requiring intervention by an operator or election staff at the voting location are displayed unambiguously in easily understood language text on the LCD display. Any error messages will be displayed in that elector’s language of choice.</p> <p>Situations that require elector or election worker interaction (ballot handling exception messages described above) are displayed clearly in plain text, and are supplemented with an audible warning signal. A confirmation screen provides clear feedback to the elector that their ballot has been successfully tabulated.</p>	
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Attachment J - Polling Place Scanner

Polling Place Scanner (PPS) Used in all polling places (Election Day and Absentee In-Person) for scanning, imaging, and tabulating ballots generated by a BMD, and for scanning, imaging, and tabulating Absentee by Mail and Provisional ballots (when needed), and conducting post-election audits. Describe all answers regarding your PPS solution. The proposed PPS solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
ii. Describe the recommended storage conditions for the proposed solution.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>Between elections, different storage options are available for the DS200. The clamshell carrying case, which serves as the top of the ballot box during operation, can be closed, and the tabulator, carrying case, and ballot box base can be stored together. Alternatively, the tabulator and carrying case can be removed from the ballot box base, and up to five (5) ballot box bases can be stacked together. Power is not required for storage; however, if the storage period exceeds eight (8) months, it is recommended to plug the DS200s into standard outlets for 24 hours to recharge the battery prior to use.</p> <p>The DS200 can easily be stored between elections using only 4.5 sq. ft. per unit: 14"W x 5" H x 16" D (Storage)</p> <p>DS200: 14"W x 13"H x 16" D (Operation)</p>	DS200 Precinct Scanner & Tabulator Sale

State of Georgia

**Statewide Voting System
eRFP: 47800-SOS0000037**

Secretary of State
pg. 6

Polling Place Scanner (PPS)	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
<p>Used in all polling places (Election Day and Absentee In-Person) for scanning, imaging, and tabulating ballots generated by a BMD, and for scanning, imaging, and tabulating Absentee by Mail and Provisional ballots (when needed), and conducting post-election audits.</p> <p>Describe all answers regarding your PPS solution. The proposed PPS solution shall:</p>			

Narrative:

NARRATIVE

The DS200® precinct digital scanner and tabulator combines the flexibility and efficiency of digital-imaging technology to support paper-based voting—taking traditional optical-scan ballot vote tabulation into the twenty-first century.

Precise ballot sensors simultaneously scan both sides of a ballot in high resolution. As a result, cast vote records and ballot images can be stored on memory devices and reviewed, as needed, on a standard PC. The DS200 is designed with flexibility to support a wide range of ballot configurations and designs. *More than 50,000 DS200 tabulators are in use today.*

DS200: KEY FEATURES & BENEFITS

- ✔ **Ease of use and setup.** The DS200 tabulator was designed for easy setup. A lid-up, power-on approach allows poll workers to easily open polls. The closing process is as simple as touching a button and locking the lid closed.
- ✔ **Large interactive touch screen.** The DS200 features an interactive 12-inch LCD color touch screen that provides immediate messages and prompts (both visual and auditory) to assist workers and voters. During voting, situations that require voter or poll-worker interaction are displayed clearly in plain text on the unit's touch screen.
- ✔ **Patented technology.** The DS200 uses ES&S-patented Intelligent Mark Recognition (IMR™) and Positive Target Recognition and Alignment Compensation (PTRAC®) software to ensure poorly marked ballots are read accurately and consistently—protecting voter intent. This precision improves the reliability of elections. The DS200 can be set to query voters about overvotes, undervotes, blank ballots and other situations.
- ✔ **Second-chance voting.** The DS200 drastically reduces invalid ballots by detecting and identifying blank, overvoted and undervoted ballots. The unit's ballot review functions ensure that every ballot represents the voters' intent.
- ✔ **Secure tabulation.** The DS200's operating system controls, limits and detects unauthorized access to all critical data, and includes safeguards, such as secure transmission channels, data encryption and digital signatures that help protect sensitive data and verify authenticity, including certification of all firmware. The DS200 will only accept certified and approved USB flash drives that contain encrypted data sealed with the correct, FIPS-compliant, signed data key. The unit generates a detailed timestamped audit record of all actions and events that occurred on the unit, including access attempts, access of system functions and errors.
- ✔ **Internal battery backup.** The DS200 has a built-in internal battery backup designed to meet the EAC 1.0 VVSG certification standards. No external UPS (universal power supply) or separate charging device is necessary. When plugged in, the DS200 battery charges automatically.
- ✔ **Integrated thermal printer.** In response to customer input, the DS200 tabulator's printer eliminates the need for a paper spool. Once a roll has been expended, simply remove the used plastic core and drop in a new roll of thermal paper – it's that easy.

3 POLLING PLACE SCANNER

3-2 PPS VALIDATION

3.2 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

ES&S provides documentation included in the Technical Documentation Package (TDP) that details the process for customers to perform a Hash Code Validation. All proposed equipment is capable of automatically producing a Hash Code to be compared to the Hash Code supplied by certification authorities. A hash check can be run by the jurisdiction at any time to ensure that the firmware and operating system code on the equipment and software is identical to the hash code approved by certification authorities. Successfully completing this validation on all equipment and software provides confidence that the firmware and software exactly matches the files in the certified source code.

ES&S tabulator firmware is inaccessible once installed. ES&S ballot tabulators are single-purpose devices that prevent overwriting or changing the election definition or system firmware once an election official installs the election program. Firmware and operating systems for ES&S tabulators reside in locations physically separate from each tabulator's election program. No source code, compiler or assemblers are resident in ES&S device firmware. To prevent alteration of executable code, the jurisdiction must provide a secure physical and procedural environment for the storage, handling, preparation, and transportation of the system hardware.

From a physical security standpoint, the DS200 has keyed locks and seals to protect all ballot box compartments, the tabulator platform, ballot slot, USB media device, and all other critical system components. The ES&S DS200 election definition is stored on a USB media device inside a tamper-proof, sealed, key-locked compartment. A wire seal can be placed on the media device itself to further provide physical security. The access door remains locked throughout Election Day, and the media device can remain sealed in the DS200 until the polls are closed and the media devices are removed and transported to Election Central for results accumulation.

Electionware and the DS200 share a robust Digital Signature and access code security feature. This feature provides a high level of security for data transferred between the election management software and the DS200. This system utilizes a public and private key management and security process which includes access code protection to prevent unauthorized access to critical system functions.

The actions of activating the terminal and changing the system-operating mode are physically restricted with a physical key. Administrative menus cannot be accessed without a system access code.

3 POLLING PLACE SCANNER

3-3 PPS TABULATION

3.3 Describe your PPS' tabulation process.

ES&S RESPONSE

The DS200 scanner and tabulator scans voted ballots and/or ExpressVote vote summary cards. Ballots will scan successfully when inserted in any of four orientations. It can scan a variety of ballot sizes, including ExpressVote vote summary cards. Both sides of the ballot are processed simultaneously with high-resolution scanners and the resulting ballot images are decoded using our patented PTRAC™ and IMR™ technology to determine what constitutes as a mark for a candidate. Tabulated voter selections are stored to a USB flash drive. The flash drive is removable from the system for transport to a central election location where vote totals are consolidated for reporting. The device also has an optional backup flash drive.

The DS200 has a large, easy-to-use, touch-screen interface for voter and poll worker communication. It also includes an integrated thermal printer for Election Day printing of zero reports at the opening of the polls, machine totals and log reports and polling place totals upon the official closing of the polls. The unit also has a USB flash drive for loading the election definition and storing results, and an internal battery pack for reliable power in the event of a power outage.

3 POLLING PLACE SCANNER

3-4 PPS AUDIT

3.4 Describe what functions the PPS provides to assist with post-election audits.

ES&S RESPONSE

The DS200 has the ability to save an image from both the front and back of the ballot. These images can be displayed in Electionware side by side with the cast vote record for the ballot image. This allows for fast and convenient post-election audits.

3 POLLING PLACE SCANNER

3-5 PPS EASE OF USE

3.5 Ease of Use for Local Election Officials and Voters: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

Please see the included case studies.

UTAH INCREASES VOTER CONFIDENCE

through verifiable ballots and better audits

In the early 2000s, election officials across the country purchased new voting systems thanks to the Help America Vote Act (HAVA). At that time, the State of Utah chose to use their HAVA grant dollars to purchase optical scanners and direct-recording electronic (DRE) voting machines.

Fast forward to over a decade later: vote by mail has become the norm for most counties across Utah. In fact, the majority of registered voters in the state automatically receive a ballot in the mail. While the machines were standing the test of time, the increased popularity of vote by mail was starting to put a lot of pressure on the decade-plus old system that was originally designed for in-precinct voting.

In addition to managing aging voting systems and changes in voting trends, election officials in Utah were facing higher expectations for security and reliability.

The expectation being all voting machines should have the ability to audit and verify that a voter's ballot was recorded and tabulated in accordance with the voter's intent.

In the fall of 2017, the State of Utah designated Election Systems & Software (ES&S) as the state's election management provider of choice. After their extensive assessment of five different election systems providers, the State's evaluation committee determined that ES&S would provide the best value to the State.

"Through a careful and thorough procurement process, the state of Utah has chosen ES&S to lead Utah into the next generation of voting equipment. ES&S offers a wide range of voting equipment options, and I'm confident their secure and innovative election solutions will fit the needs of each county," Utah State Lieutenant Governor, Spencer J. Cox said (October 2017)

Through their extensive assessments, the State Evaluation Committee determined:

- ES&S' Electionware election management system provides a more efficient and intuitive process for ballot layout and design, as well as import and export capabilities.
- ES&S has a tabulation solution for every Utah county, all of which reduce ballot processing time and provide an efficient process for adjudicating ballots.
- ES&S ExpressVote universal voting solution combines paper-based voting with touch-screen technology to meet the needs of voters with disabilities as well as provide a permanent paper record.
- ES&S's longevity, financial stability and reputation position it as the best option to support a roll-out of new equipment in multiple counties in Utah simultaneously, and provide support and maintenance plans at different levels of service and price points.

The Old Utah



Approximately 650
Direct-Recording Electronics
and Optical scanner units



Approximately 940
Direct-Recording Electronics
and Optical scanner units



Approximately 156
Direct-Recording Electronics
and Optical scanner units

ES&S SOLUTIONS

EASY EQUIPMENT SETUP

While nearly every registered voter in Utah receives a ballot by mail, registered voters may still vote in-person on or before Election Day. In Utah, accessible voting centers are available for voters with disabilities who need assistance completing their ballot and registered voters who prefer to cast their ballot in person during early voting and on Election Day.

Weber County Elections Director Ryan Cowley was impressed with the set-up process for their new ES&S equipment. "Way, way easy. The poll workers love the easy set up — remove the locks, verify the label and lift the lid. They can focus on making sure the polling place is organized, rather than rushing to get equipment set up. It's a huge time savings. Polling place set up is not a big deal anymore, it's so simple."

"The ES&S ExpressVotes are just so much easier to use. Before, we were spending hours and hours setting up the equipment on election morning," Summit County Clerk, Kent Jones said. "On Election Day, we use the ExpressVote as a ballot marker. Voters mark their selections, print their vote summary card and then those cards are tabulated together with the ballots that came in the mail. Everything's done centrally, so we handle and see everything."



The New Utah



- (18) Ballot on Demands
- (2) DS450s
- (14) DS200s
- (9) ExpressVotes



- (27) Ballot on Demands
- (2) DS450s
- (19) DS200s
- (25) ExpressVotes



- (1) DS450
- (18) ExpressVotes

FAST, SECURE BALLOT TABULATION

With the move to vote by mail, Utah officials needed to use the optical scan machines to process election results. Utah's old optical scanners, which were originally purchased to tabulate a small number of absentee ballots, required each ballot be hand fed into the machine.

"For the 2016 presidential election, Davis County mailed out 150,000 ballots and had a total vote turnout of 140,000. We ran all 140,000 ballots by hand through four older optical scanners, one at a time. It was very labor-intensive," Davis County Elections Manager Brian McKenzie said. "With the ES&S DS450 we can just put them in a stack and let them run."

With their old optical scanners, Davis County had four staff members counting ballots full time. With their new ES&S DS450, they have one-to-two team members who spend about a fourth of the time counting ballots.

McKenzie said, *"We can keep two of the DS450s running with one, one and a half people. As one person, I couldn't work as fast as the machines."*

IMPROVED POST-ELECTION AUDITING AND ADJUDICATION

When Utah counties started using DREs in the early 2000s, the state began requiring post-election audits. Typically, the process required a team of three people to audit each machine — one person to read the tape and two people to simultaneously record votes, making sure counts matched throughout. On average, the process took about two hours.

"I have to say that I could not be more pleased with how this (ES&S) system performed and counted the ballots. Being able to compare not only how the system originally counted a ballot, but also how the ballot was adjudicated, back to the digital image of the ballot itself is truly amazing. For the first time in my career, I feel like we have a transparent and auditable system," Cowley said.

"Compared to our previous system, thanks to auto adjudication we had far less to look at. We were inspecting every ballot before we ran it through the old optical scan machine. We didn't do any of that this time - we just ran them through," Jones said.

COMPREHENSIVE ONBOARDING AND TRAINING

Utah's onboarding process with ES&S was under a compressed timeline. ES&S onboarded 19 counties in 3-4 months.

"We changed everything except for voter registration — every piece of equipment that we used to process ballots was brand new. New accessible machines, new Ballot-on-Demand machines, new precinct tabulators, new central count tabulators, and new adjudication and audit process and procedures," Cowley said. "Receipt of the equipment and the training was all very timely. The ES&S team worked with about 50 people from 21 counties demonstrating each piece of equipment — leading detailed discussions about the equipment and how we saw it working for us. The team also helped with creating new policies and procedures. We received



"When we (Davis County) did our previous audits, we would only audit the races we were required to. With the new system we figured, the whole ballot is there, let's just look at everything," McKenzie said. "We did a full audit of the entire ballot, for all races. It was a more thorough audit, it covered all the races, and it only took two hours. We were just like, 'wow, it's so much better.'"



lot of support up front, and then we're able to take that and run with it."

McKenzie said, "Our experience from the beginning up to this point with ES&S has been phenomenal. Starting out, just getting to know the ES&S system went really well, and we were so impressed with the information ES&S could provide, coupled with the general feel of professionalism of the ES&S team. The organization and logistics when we were implementing the new system was really really good, the coordination of taking out the old equipment and bringing in the new equipment, the training, the people who came in and set us up and answered any questions we had, was great."

"Learning about the new equipment was probably the easiest transition it could have been. There wasn't a huge learning curve. ES&S simplified everything," Jones said. "We spent more time teaching the judges about the signature verification process than it took to learn the equipment."

CUSTOMER SERVICE EXCELLENCE

ES&S integrates good customer service into every aspect of our business. Our enthusiasm for the work we do and for our customers is unrivaled. ES&S' team of seasoned election professionals are empowered to think on their feet and work closely with our election administration partners to customize secure and innovative solutions to fit their needs.

Davis said, "The one thing that I would just sing praises to is the customer support – when we've had to call in with any type of question, whether it be concerning software or hardware support – the people on the other end of the line were phenomenal. I've personally experienced several instances where they have gone above and beyond. There was one time when I called in, it was near end of business day, and they gave me a solution. They made themselves available after their own hours to follow up and make sure we were able to implement the solution. All of them are so good at asking questions to make sure they fully understand the situation, and then they walk you through the process. Never have I felt like I was wasting their time and never are they frustrated. I can't say enough good things about the customer support. We've had really good experiences with everyone from ES&S. If someone has a bad experience with ES&S, you'd hear about it – and we don't."



"I'm going to brag about ES&S for a little bit," Weber County Elections Director Ryan Cowley said. "One of the things I think you guys always nail is customer support. With our previous vendors there was literally no support — things like trying to get parts and supplies, we just didn't get anything. The level of support we get from ES&S is a cultural thing — it's all about making sure you get the customer what they need. There is a much higher customer-service philosophy at ES&S."



Enhancing Elections in WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the [ExpressVote](#)® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the [DS200](#)® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.
- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.
- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.
- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.
- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.
- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."
- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.



Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

- User friendliness
- Paper records adding clear voter intent
- Ease of mind having a paper back-up
- Attractive system from an administrative standpoint
- Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

“What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product” Tammy Smith, Assistant Administrator, commented. “During a visit after that, we told them we were looking for products and couldn’t find them. The next time we saw them, they brought us a catalog!”

“Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote.”

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren’t familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.



In light of this, Wilson County makes sure that updated technology isn’t a barrier for those looking to serve yet not matching the required skill set level. “We try to configure our poll place system in a way that if they aren’t good with computers we can find a place for them if possible on Election Day” Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county’s comparison of the system to a grocery store self check-out. “Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It’s so organized people can almost go through the process on autopilot.”

One, who indicated she had a computer background, complimented the start to finish technology integrations. “Going from a more manual process of selecting ballot styles for people, this is much preferred. There’s no real error, you just print their barcode and they follow the instructions on screen from there.”

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

"We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

- Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our [website](#).



Results

- 1 Smoother canvass and hand count
- 2 Reduced number of morning follow up calls
- 3 Success means that results are ready 2-3 hours sooner



Susan Thomas, Harrison County Clerk



“All you have to do is touch your selections, check your printed ballot and put it into the tabulator.”

“**Georgianna Thompson,**
Taylor County Clerk

“Commissioners were not excited about spending the money. I was fully prepared to continue maintaining the old equipment. The ExpressVote convinced them that it will pay dividends in the future.”

“**Brian Wood,**
Putnam County Clerk

SEE FOR YOURSELF!
Call to request a demo!

HOW WEST VIRGINIA'S Election Officials Are Reducing Costs

While Improving the Election Experience for Voters & Poll Workers

Many voters across the U.S. are casting their ballots on a generation of aging, decade-plus old optical scan and direct-recording electronic (DRE) voting machines. Election officials nationwide rushed to embrace new voting technology after Congress passed the Help America Vote Act (HAVA) in 2002, which addressed the way ballots were designed, cast and counted, and led to an overhaul of the U.S. election system and eventually the birth of the DRE and optical scan machines. **Ten plus years later another major overhaul of the U.S. election system is underway, and a number of states are seriously considering a return to paper-based voting systems.**



Vera McCormick, Kanawha County Clerk

*stats are current as of October 2017

As with many states in the early 2000s, West Virginia faced various challenges related to becoming compliant with HAVA. At the close of the 2005 West Virginia Legislative regular session, during which a voter-verified paper trail bill was signed into law, Secretary of State Betty Ireland began her search for a pioneering elections partner that could help West Virginia do three things: 1) meet the requirements of HAVA, 2) reduce the financial burden of becoming compliant off the counties as much as possible, and 3) offer counties quality voting system options.

In August 2005, ES&S was awarded the statewide contract to provide all of West Virginia’s counties with voting systems and election services. And in 2006, just over half of West Virginia’s 55 counties, whose County Clerks manage elections at the local level, purchased DRE systems while the remaining chose to purchase optical scan voting systems paired with central scanners, creating a dual system environment across the state.

Why the change?

Fast forward ten more years, similar to many states across the U.S., while their existing voting systems were withstanding the test of time, West Virginia’s jurisdictions began the process to find a more modern system that offered a paper-verifiable record.



Brian Wood, Putnam County Clerk

“Our equipment was aging. Having partnered with ES&S for ten plus years, we knew they were always developing solutions that made our lives easier and were more efficient, dependable and cost-effective.”


“The ExpressVote® was the best of both worlds with the electronic aspect, including improved visibility and ADA compliance, along with the paper verification where the voter can hold their selections in their hands, confirm everything is accurate, and then place it in the DS200® ballot slot.”


They were also ready to put away the challenges associated with their aging equipment and find a solution that simplified election management and improved voters’ experience at the polls. Much like the avid flip-phone users, whose carriers still supported their phones, and whose flip-phones still made calls — they ultimately realized how much easier and more efficient their life could be if they had a smartphone.

“So much less to worry about and less upkeep. We no longer have to deal with all of the different consumables,” said Susan Thomas, Harrison County Clerk. “You plug them in, flip a switch, lift a screen and both are powered up within five minutes. Plus, with ExpressVote and DS200 everything is a lot simpler for us on the backend.”

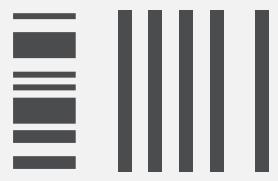
It was important to them that their new equipment made the backend of their elections easier for not only themselves and their teams, but the poll workers as well. Equipment that wasn’t hard to haul around, was easier to program and would ease the burden of having to hand count write-in and canvass ballots.

“The ballots marked on the ExpressVote require less storage due to their size, and the leftover blank cardstock can be reused in other elections. We can do satellite voting now, and don’t have to carry all of those preprinted ballots with us.”





Vera McCormick,
Kanawha County Clerk




“Canvass and hand count went very smoothly; the ballot was easy to read and easy to determine the voter’s intent. NO OVERVOTES!”

The clerks wanted a truly usable summary report of the final results, a more robust in-depth audit report. They wanted to deliver their county’s election results before 3 a.m. so the candidates and the people who had worked so hard supporting them could either get their parties started or start picking up campaign signs.

“We live in a fast food world, and people want their results right away”

“The candidates and their supporters have worked for a long time to get there, so they are very anxious to get the results. So is the media ... it’s nice to give them what they need, and get them back to work by 10 p.m. instead of 3 a.m.”

Brian Wood, Putnam County Clerk



Most importantly, they wanted every one of their voters to have a consistent, simple and secure election experience. This included having only one system to vote on, that was easy to use and that included a verifiable paper record that allowed them to confirm that the selections they marked were what they intended.

“We demo’ed the equipment in several different locations with seniors, many of which who were in their 90s. We didn’t really have to explain much to them as far as how to use it, and everyone liked it,” said McCormick. “They liked having a piece of paper in their hand that they could hold, so there was no guessing.”

3 POLLING PLACE SCANNER

3-6 PPS CAPACITY

3.6 Ballot Scanning Capacity: Provide the number of ballots that can be held by the ballot box to which the proposed PPS would be connected. Specify capacity by ballot size dimensions.

ES&S RESPONSE

The ballot box is a secure stand for the DS200. Ballots are scanned through the DS200 and are immediately passed into the sealed ballot box. The DS200 plastic ballot box has a single main bin and can hold 5,000 11", 14", 17", and 19" ballots. The auxiliary ballot compartment holds approximately 150 to 200 ballots.

The DS200 tote bin can hold approximately 2,500 ballots.

3 POLLING PLACE SCANNER

3-7 PPS ENVIRONMENT

3.7 Describe how the proposed PPS handles adverse environmental and physical ballot conditions (i.e. water, humidity, bent or torn ballots, etc.).

ES&S RESPONSE

All proposed devices have been designed to meet or exceed VVSG requirements for performance in a wide range of climates and humidity levels without ballot jams or other malfunctions. Following are the environment operation and storage requirements for each device:

Tested temperature ranges:

- ✔ DS200 – Operation (+40 to +95 degrees Fahrenheit); Storage (-4 to +140 degrees Fahrenheit)

The DS200 has been uniquely designed to accept ballots that have been folded, creased, ballots with stubs torn off, irregularities, and otherwise damaged ballots. The scanner's paper transport safely guides folded ballots through the read heads to avoid paper jams or misreads.

3 POLLING PLACE SCANNER

3-8 PPS ADA

3.8 Describe how the proposed PPS will support ADA accessibility for scanning ballots.

ES&S RESPONSE

ExpressVote meets and exceeds the most rigorous 1.0 Voluntary Voting Systems Guidelines and HAVA section 301 accessibility requirements providing the industry-leading universal voting system for all eligible voters without discrimination of voters with disabilities.

Paired with the DS200, which meets all the Common Standards of the Accessibility requirement in VVSG Volume 1 – Section 2.2.7.1, the ExpressVote produces an accessible paper-based record for subsequent tabulation.

4 CENTRAL SCANNING DEVICE (CSD)

4-1 CSD

4.1 Complete the attached form titled "Central Scanning Device" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment K - Central Scanning Device**.

Attachment K - Central Scanning Device

1. Central Scanning Device (CSD) – Used for scanning, imaging, and tabulating optical scan ballots, ballots generated from a BMD, and conducting post-election audits. Describe all answers regarding your CSD solution. The proposed CSD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Capabilities			
a. Allow election configuration information loaded via encrypted, removable memory devices created by the EMS or through direct a connection to the EMS through a secure LAN.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Election definition files and results on removable USB memory devices are encrypted using military-grade encryption: FIPS-compliant Advanced Encryption Standard (AES) encryption. ES&S employs strong encryption to FIPS 140-2 standards. Data is transferred to/from the EMS via USB memory devices.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
b. Must provide ability for user to conduct pre-election testing on all functions of the CSD with the outputs of the testing stored both internally and to the encrypted, removable memory device loaded.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200/DS450/DS850 central scanners provide the ability for county election staff to conduct pre-election testing on all functions of the device with outputs of the testing (election definition, cast vote records, ballot images, and audit data) stored to their encrypted, removable memory devices. Additionally, the DS450/DS850 store outputs internally. Optionally, during pre-election testing on the DS200/DS450/DS850, an additional USB memory device can be used to store a backup of all data found on the primary USB memory device. A pre-election testing results report can be printed. A configuration report can also be printed.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale

<p>c. Be capable of producing a printable report detailing the results of any testing executed on the device.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>Logic and Accuracy tests are performed using a pre-marked test deck that is properly representative of the election. The Electionware EMS provides an easy means of generating a test deck marked with the jurisdiction's required ballots and voting patterns.</p> <p>Our Automated Test Deck Creation module found within Electionware Toolbox software provides a spreadsheet chart of predetermined results as well as a set of PDF files with pre-marked ovals. The information needed to create the test deck comes directly from the Electionware election definition.</p> <p>Prior to starting the DS200 L&A testing, an equipment pre-test will be run on each tabulator to verify the equipment status (battery charged, paper roll changed, ink dauber changed, touch screen calibrated, correct date and time setting).</p> <p>After the pre-test, each tabulator will be powered up and the election qualification code and definition loaded. As the unit boots up, a Configuration report, Ballot Status and Accounting report, and Zero report will print. The tester will verify that no votes are present on the unit; if votes are present, they must be cleared prior to starting the L&A testing.</p> <p>When the tester is ready to begin testing the paper ballot portion of the L&A, the test deck ballots are</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>
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		<p>fed into the DS200. Once done, the polls on the DS200 are closed by pressing the Polls Closed button inside the access door. The unit will automatically print a Results Report and the tester will verify the results with the known results from the pre-marked deck.</p> <p>The DS450/DS850 can be setup in minutes to run these ballots, generate results, and be cleared and ready for the election. Zero and Results Reports from the test can be printed at the machine and results can be transferred to the Election Reporting Module using a secure USB transfer. Test data is easily cleared after the pre-election test to allow printing of zero reports, scanning of election ballots, and printing and transfer of election results.</p>	
d. Provide a user interface to securely access the functionality of the device as required for pre-election setup and testing, election operational use, and post-election use.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>Yes, all operation on the DS450/DS850/DS200 is provided through a graphical user interface. No command line interface is required.</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>
e. Display instructions to the user through the user interface.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS450/DS850/DS200 features a user-friendly software with clear and complete visual messages and graphics on an easy-to-use liquid-crystal display (LCD) color touch screen. These messages guide the user through the scanning process and assist them in resolution of any problems.</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>
f. Scan all ballot types.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS450/DS850/DS200 can scan ballots generated by the Balotar BMD, optical scan ballots printed on-demand or pre-printed, and ExpressVote Vote Summary</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p>

		Cards from the ballot marking device.	Sale
g. Record and tabulate the voter selections from each ballot scanned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS450/DS850/DS200 scans the entire ballot (front and back) in seconds, interprets voter selections and either accepts the ballot, storing a cast vote record and scanned ballot image, or outstacks the ballot and alerts the operator to any ballot handling exception condition (undervotes, overvotes, blanks, mismarks) with large, easy-to-read system messages. The DS450/DS850/DS200 provides instructions for resolving any ballot issue.</p> <p>As the DS450/DS850/DS200 records ballot choices, the scanner stores a high-resolution image of the entire ballot and cast vote record to the internal hard drive.</p>	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
h. Record and tabulate only those ballot styles specific to the current election for which the CSD has been configured.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS450/DS850 outstacks any invalid ballot styles that are not specific to the current election. The DS200 rejects ballots that are not specific to the current election.</p>	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
i. Collect digital images of every ballot scanned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>As the DS200 records ballot choices, the scanner stores a high-resolution image of the entire ballot and cast vote record to the inserted USB flash drive.</p> <p>The DS450/DS850 store digital compressed TIFF images of every ballot scanned.</p>	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
j. Scan ballots of the following lengths:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>		DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator

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Vendor: Election Systems & Software, LLC **Attachment K - Central Scanning Device**

1. Central Scanning Device (CSD) – Used for scanning, imaging, and tabulating optical scan ballots, ballots generated from a BMD, and conducting post-election audits. Describe all answers regarding your CSD solution. The proposed CSD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
<ul style="list-style-type: none"> 11 inches 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 scans 11-inch ballots in any orientation.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
<ul style="list-style-type: none"> 14 inches 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 scans 14-inch ballots in any orientation.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
<ul style="list-style-type: none"> 17 inches 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 scans 17-inch ballots in any orientation.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
<ul style="list-style-type: none"> 18 inches 	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
<ul style="list-style-type: none"> Other 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 scans 19-inch ballots in any orientation.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator

			Sale
k. Be capable of scanning one-sided ballots, two-sided ballots, and multi-page ballots while recording the event as one ballot cast.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 can handle one-sided ballots, two-sided ballots, and multiple-page ballots. When the DS200 reads a one-sided ballot, two-sided ballot, or multiple-page ballot, the tabulator records page one in a multiple-page ballot as an indicator of a ballot being cast. The DS450/DS850 scans all ballot pages independently and is not sensitive to page order or missing pages in a multipage ballot. The DS450/DS850 creates a CVR for each ballot sheet. This means that if sheets are out of order it doesn't matter because each sheet is treated as its own ballot.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
l. Accept ballots in any of the four possible orientations: top side up, top side down, header in first, footer in first.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS450/DS850/DS200 accepts ballots in all four orientations (top side up, top side down, header in first, footer in first). Furthermore, it can accept ballots printed in either portrait or landscape layout or with one layout style (portrait/landscape) on the front and the other on the back.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
m. Be capable of batch feeding and scanning of ballots from a feed tray until the tray is empty.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 scans ballots one ballot at a time. The DS450/DS850 feature a motorized input tray that provides constant pressure as large stacks of ballots are run through the machine.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
n. Maintain an audit log of each activity occurring on the CSD that includes at least the following:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Each component of the system has a log to allow auditing of all operations and ensures logging cannot be disabled or altered. The DS200 can print an audit log report (Event Log) that lists all	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale

		<p>events (errors, alarm conditions, exceptions, and user-initiated functions) that have occurred on the system from the time an election worker inserts the unit's memory device into the machine until it is removed. Each event appears in the audit record with a date and time stamp.</p> <p>The DS200 Event Log retains entries from all internal components capable of producing an audit log entry, including the power management board, the scanner hardware board, and the election processing firmware.</p> <p>The DS450/DS850 audit log holds entries from all internal components capable of producing an audit log entry, including the power management board, the scanner hardware board, and the election processing firmware. The user is unable to disable or alter the audit log functions of the DS450/DS850.</p> <p>Only the DS450/DS850 system can create, read, modify, and delete the audit log/inventory as the user interface is locked out of this functionality. All low-level access to the file systems is protected.</p> <p>The DS450/DS850 comes equipped with a dot matrix printer to print the continuous audit log.</p> <p>The EMS, Electionware, can be set to prevent the DS450/DS850 user from disabling audit log printing.</p>	
<ul style="list-style-type: none"> Date/time of the event 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The audit log report lists all events	DS200 Central Scanner & Tabulator

		(standard system messages, system errors, exceptions, operator actions, system responses to each operator action, etc.) that occur on the system from the time the unit is booted up until the unit is shut down. Each event appears in the audit record with a date/timestamp.	DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
• Description of event	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All ES&S tabulator audit logs record all actions performed with a description of the event. All audit logs are stored in an easily searchable format and are available for download and printing. The DS450/DS850/DS200 records errors and major events and tags these incidents with the date and time the incident occurred based on the unit's real-time clock settings.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
• Tabulation timestamps	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200/DS450/DS850 tabulator creates a Cast Vote Record (CVR) with a timestamp for each ballot.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
• Device serial number	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The unit serial number is on a permanent label on the side of the unit, is logged in the application log, and is printed on all reports generated by the DS450/DS850/DS200.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
o. Be capable of identifying ballots containing overvotes and batching those ballots for review.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 can be programmed to query the election worker regarding overvotes. The user can choose to correct the overvote or cast the ballot as-is. The DS450/DS850 tabulator is capable of outstacking ballots with overvotes for further review.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale

<p>p. Be capable of identifying ballots containing undervotes and batching those ballots for review.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 can be programmed the query the election worker regarding undervotes. The user can choose to correct the undervote or cast the ballot as-is.</p> <p>The DS450/DS850 tabulator is capable of outstacking ballots with undervotes for further review.</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>
<p>q. Be capable of identifying ballots containing write-in selections and batching those ballots for review.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 is capable of recognizing write-in content on the ballot and producing a write-in report.</p> <p>The DS450/DS850 tabulator is capable of outstacking ballots with write-in votes.</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>

State of Georgia

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Vendor: Election Systems & Software, LLC **Attachment K - Central Scanning Device**

<p>1. Central Scanning Device (CSD) – Used for scanning, imaging, and tabulating optical scan ballots, ballots generated from a BMD, and conducting post-election audits.</p> <p>Describe all answers regarding your CSD solution. The proposed CSD solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>	<p>PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)</p>
<p>r. Identify ballots that are not valid, and do not collect information from these ballots. Batch those ballots for review.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 will reject invalid ballots and will not collect information from those ballots.</p> <p>The DS450/DS850 outstack ballots that are invalid or not recognized. Those ballots are batched for review. Because they are outstacked, information is not automatically collected for these ballots.</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>
<p>s. Capture an image of the write-in name placed on the ballot when write-in options are part of the configured election.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>During the election setup in Electionware, the user may decide to use the Capturing Image feature to save all ballot images, no ballot images, or only those ballot images with write-ins.</p> <p>When DS200 ballots are scanned, depending on the Electionware programming, the DS200 can store a graphic image of the scanned ballot, including write-in text, on the system's USB memory device. When the scanner detects a write-in vote, the system stores the write-in ballot image under a special file name to identify the image as a write-in ballot. Ballot images can be reviewed in Electionware. Ballot images can be filtered by various attributes, including displaying only ballots containing</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>

		<p>write-ins. The Cast Vote Record for the ballot image can be viewed beside the ballot image.</p> <p>Furthermore, Electionware can output a spreadsheet with an entry for each hand-written write-in snippet of the image containing the voters' marks.</p> <p>The DS450/DS850 identify and may be configured to outstack ballots with write-in votes.</p> <p>The graphic images the DS450/DS450/DS850 create during scanning can be later reviewed in Electionware and filtered by various attributes, including displaying only ballots containing write-ins. The Cast Vote Record for the ballot image can be viewed beside the ballot image. Image files can also be exported in a PDF format for archival or public review. During export, the ballots can be filtered to include the CVR for the image; a watermark can be applied to the PDF file.</p> <p>Electionware further includes the ability to assign and tally write-in names within Electionware. The write-in tallies can be displayed within Electionware results reports.</p>	
t. Scan and properly tabulate ballots cast and report the results collected back to the precinct and split-precinct level to which the ballots were associated.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200/DS450/DS850 results are collected and can be reported at the precinct and split-precinct level.</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>

<p>u. In the event of a power failure, be able to recover collected images and tabulations upon restoration of power.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The DS200 has a built-in backup battery. In the event of a power failure, the DS200 seamlessly reverts to the battery. Images will continue to be stored on the USB memory device inserted in to the DS200. Those images can be collected up on restoration of power.</p> <p>The DS450 and DS850 are both certified with a COTS UPS (Uninterruptible Power Supply), which is included with the price proposal. In the event of external power failure, the DS450 and DS850 automatically transition to being powered by the UPS. When running on UPS power, the tabulator will complete any ballot scanning that is taking place at the time of power transition. From there, the operator can save the current results and print any desired reports. The operator can then shut the unit down manually, or the unit will automatically and gracefully shut down when the UPS battery is exhausted. Collected images and tabulations can be collected upon restoration of power.</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>
<p>v. Retain tabulated results from ballots scanned to redundant memory locations on the device, one location being the encrypted, removable media device created by the EMS for the specific election.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>All DS200 vote data, including tabulated results, and logs generated during the course of scanning ballots are stored on a USB flash drive that is safely installed under a security cover. The DS200 features an optional backup USB memory device in the rear access panel to provide a redundant memory location. This backup media is created upon poll close and protects against damaged</p>	<p>DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale</p>

		<p>or lost memory devices. Furthermore, the vote data is captured on the actual ballot itself, which is securely stored in the protective ballot box.</p> <p>During scanning, ballot data is collected in RAM on the DS450/DS850. On completion of the run, ballot data is stored to a temporary folder on its 1 terabyte internal hard disk drive. In the event of a shutdown, the device can be powered up and operation can resume from the point before the shutdown. When the DS450/DS850 operator chooses to save a batch, the ballot data is moved from the temporary location and stored in a saved folder where the data is marked as available for aggregation. Vote data can be backed up to a USB flash drive from which a results collection can be done in the case of a hardware failure.</p>	
<p>w. Retain collected digital images of every ballot scanned to redundant memory locations on the device, one location being the encrypted, removable media device created by the EMS for the specific election.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>All DS200 digital images of the ballots and logs generated during the course of scanning ballots are stored on a USB flash drive that is safely installed under a security cover. The DS200 features an optional backup USB memory device in the rear access panel to provide a redundant memory location. This backup media is created upon poll close and protects against damaged or lost memory devices.</p> <p>During scanning, digital images of the ballot are collected in RAM on the DS450/DS850. On completion of the run, ballot data is stored to a</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>

		temporary folder on its 1 terabyte internal hard disk drive. In the event of a shutdown, the device can be powered up and operation can resume from the point before the shutdown. When the DS450/DS850 operator chooses to save a batch, the ballot data is moved from the temporary location and stored in a saved folder where the data is marked as available for aggregation. Vote data can be backed up to a USB flash drive from which a results collection can be done in the case of a hardware failure.	
x. Be capable of producing a printable report detailing the results tabulated by the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 can print a Results Report after the polls are closed.</p> <p>The DS450/DS850 can produce a Results Report (provides detailed election results in customizable multiple report levels) and Precincts Processed Report (allows you to see which precincts have been processed and which have not been processed).</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>
y. Be capable of producing a printable report detailing the results tabulated by batch on the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The DS200 does not produce batch reports. However, it does print a Results Report after the polls are closed.</p> <p>The DS450/DS850 can print a Batch/Bin Report that reports ballot totals for the last batch that was saved. Bin options are ballots Not Processed (top bin), Processes with Write-ins (middle bin), and Processed (bottom bin).</p>	<p>DS200 Central Scanner & Tabulator</p> <p>DS450 Central Scanner & Tabulator</p> <p>DS850 Central Scanner & Tabulator</p> <p>Sale</p>

Vendor: Election Systems & Software, LLC **Attachment K - Central Scanning Device**

1. Central Scanning Device (CSD) – Used for scanning, imaging, and tabulating optical scan ballots, ballots generated from a BMD, and conducting post-election audits. Describe all answers regarding your CSD solution. The proposed CSD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
z. Securely encrypt the tabulated results from the device and securely send via encrypted, removable memory device, or a secure Local Area Network (LAN) to the EMS.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The tabulated results from the DS200/DS450/DS850 to the EMS via USB are both encrypted and digitally signed using third-party cryptographic libraries that are validated to the FIPS (Federal Information Processing Standard) 140-2 level.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
aa. Maintain and display while scanning ballots a visible numeric count of the total number of ballots scanned since the scanning was initiated.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 displays a public count that tracks the number of ballots cast between opening and closing the polls. The public count starts at zero and increases with each cast ballot. The DS450/DS850 scanning screen displays the number of ballots scanned in the current batch, as well as the number of ballots saved since scanning was initiated.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
bb. Operate on standard 110/120 V AC power	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 operates on standard 110-volt AC electrical services and plugs into a standard three-prong grounded electrical outlet. The DS200 unit's input rating is 120V~50/60 Hz 2A. The DS450/DS850 operates on standard 110-volt AC electrical services and plugs into a standard three-prong grounded electrical outlet. The DS450/DS850 unit's input rating is 120V~50/60 Hz 2A.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale

cc. Display the device's serial number both physically and within any applicable software, logs, or reports.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The unit serial number is on a permanent label on the side of the unit, is logged in the application log, and is printed on all reports generated by the DS450/DS850/DS200.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
dd. Allow authorized users to re-run a batch or batches of ballots, if necessary, without affecting previously tabulated results.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 does not allow users to re-run a batch or batches of ballots. The DS450/DS850 operator can re-run a batch of ballots or batches of ballots, if necessary, before they are saved to the system. Our proposed certification allows the user to not only delete a batch, but the ability to add more ballots to a batch or even un-delete a batch that was deleted by mistake.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
ee. Allow authorized users the ability to remove saved ballot batches from the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 does not allow users to remove saved batches from the device. Our proposed certification allows the user to not only delete a batch on the DS450/DS850, but the ability to add more ballots to a batch or even un-delete a batch that was deleted by mistake.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale
ff. Identify and batch, for adjudication, ballots that cannot be read or read as blank.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The DS200 can be programmed to return an unreadable or blank ballot. The DS450/DS850 can outstack unreadable or blank ballots for further review.	DS200 Central Scanner & Tabulator DS450 Central Scanner & Tabulator DS850 Central Scanner & Tabulator Sale

State of Georgia

**Statewide Voting System
eRFP: 47800-SOS0000037**

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Vendor: Election Systems & Software, LLC **Attachment K - Central Scanning Device**

<p>1. Central Scanning Device (CSD) – Used for scanning, imaging, and tabulating optical scan ballots, ballots generated from a BMD, and conducting post-election audits.</p> <p>Describe all answers regarding your CSD solution. The proposed CSD solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>	<p>PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)</p>
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Narrative:

State of Georgia

**Statewide Voting System
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Secretary of State
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NARRATIVE

The DS200® precinct digital scanner and tabulator combines the flexibility and efficiency of digital-imaging technology to support paper-based voting—taking traditional optical-scan ballot vote tabulation into the twenty-first century.

Precise ballot sensors simultaneously scan both sides of a ballot in high resolution. As a result, cast vote records and ballot images can be stored on memory devices and reviewed, as needed, on a standard PC. The DS200 is designed with flexibility to support a wide range of ballot configurations and designs. *More than 50,000 DS200 tabulators are in use today.*

DS200: KEY FEATURES & BENEFITS

- ✔ **Ease of use and setup.** The DS200 tabulator was designed for easy setup. A lid-up, power-on approach allows poll workers to easily open polls. The closing process is as simple as touching a button and locking the lid closed.
- ✔ **Large interactive touch screen.** The DS200 features an interactive 12-inch LCD color touch screen that provides immediate messages and prompts (both visual and auditory) to assist workers and voters. During voting, situations that require voter or poll-worker interaction are displayed clearly in plain text on the unit's touch screen.
- ✔ **Patented technology.** The DS200 uses ES&S-patented Intelligent Mark Recognition (IMR™) and Positive Target Recognition and Alignment Compensation (PTRAC®) software to ensure poorly marked ballots are read accurately and consistently—protecting voter intent. This precision improves the reliability of elections. The DS200 can be set to query voters about overvotes, undervotes, blank ballots and other situations.
- ✔ **Second-chance voting.** The DS200 drastically reduces invalid ballots by detecting and identifying blank, overvoted and undervoted ballots. The unit's ballot review functions ensure that every ballot represents the voters' intent.
- ✔ **Secure tabulation.** The DS200's operating system controls, limits and detects unauthorized access to all critical data, and includes safeguards, such as secure transmission channels, data encryption and digital signatures that help protect sensitive data and verify authenticity, including certification of all firmware. The DS200 will only accept certified and approved USB flash drives that contain encrypted data sealed with the correct, FIPS-compliant, signed data key. The unit generates a detailed timestamped audit record of all actions and events that occurred on the unit, including access attempts, access of system functions and errors.
- ✔ **Internal battery backup.** The DS200 has a built-in internal battery backup designed to meet the EAC 1.0 VVSG certification standards. No external UPS (universal power supply) or separate charging device is necessary. When plugged in, the DS200 battery charges automatically.
- ✔ **Integrated thermal printer.** In response to customer input, the DS200 tabulator's printer eliminates the need for a paper spool. Once a roll has been expended, simply remove the used plastic core and drop in a new roll of thermal paper – it's that easy.

THROUGHPUT

The DS200 throughput nominal processing speed in ballots per minute (bpm) is:

11 inches - 12 bpm

14 inches - 11 bpm

17 inches – 10.5 bpm

19 inches - 10 bpm

Customizable sorting is now more affordable than ever with the DS850® high-speed and DS450® high-throughput central scanner and tabulators. The DS850 and DS450 do not stop for overvotes, write-ins or blank ballots. These scanner and tabulators use our patented technology, which increases the accuracy of tabulation and reducing manual adjudication time.

The DS850 and DS450 are tailor-made solutions for counties that process higher volumes of absentee ballots. Its durability eliminates the need to reinvest in equipment over the standard lifespan of election systems, maintaining affordability for all.

DS450/DS850: KEY FEATURES & BENEFITS

- ✔ **Recounts.** In case of a recount, the DS850/DS450 can be used to rapidly perform a recount of paper ballots and vote summary cards. Electionware can restrict the election definition to a subset of contests or precincts specified for a specific recount.
- ✔ **Ease of use.** The DS850/DS450 features a user-friendly software interface on an easy-to-use 15-inch LCD color touch screen display. Simply place a stack of ballots in the feed hopper and press start. The DS850/DS450 will scan, tabulate and sort the ballots without any further interaction by the operator.
- ✔ **Flexibility.** The DS850/DS450 offers three separate sorting bins that enable counties to sort specific types of ballots. Which ballots are sent to three separate sorting bins can be customized. The DS850/DS450 can separate ballots for a variety of reasons, like write-in votes, over-votes or blank ballots, without losing speed.
- ✔ **Accuracy.** ES&S' patented image recognition technology ensures ballots are read accurately and consistently, protecting voter intent and eliminating manual adjudication time. The DS450 recognizes common voter marks and is not fooled by stray marks or smudges.
- ✔ **Speed.** Troublesome folded ballots are no longer difficult to handle with the DS450 tabulator's TruGrip technology. The DS450 can scan, tabulate, adjudicate and sort ballots at the rate of 90 ballots per minute, eliminating the need to hand-feed ballots one-by-one. The DS850 is the only high-speed vote scanner in the marketplace that can sort various ballot sizes at full speed. It scans and sorts 14-inch double-sided ballots at 300 per minute into three output trays, separating ballots into three categories: counted, requires further review, and write-ins. The DS850 adjudicates at approximately three times the speed of competing devices. The DS850 is also able to sort ballots for manual recounts.
- ✔ **Mail ballot processing.** The DS850/DS450 was designed for mail-ballot processing. The speed, ease of use and ability to process folded ballots make it ideal for rapidly and accurately processing mailed-in ballots.
- ✔ **Folded ballot processing.** The DS850/DS450 was designed with a series of patent-pending TruGrip™ composite rollers that apply constant pressure to folded ballots throughout the entire tabulating process without losing speed.

THROUGHPUT:

The DS850 nominal processing speed in ballots per minute (bpm):

- 11 inches – 368 bpm
- 14 inches – 300 bpm
- 17 inches – 250 bpm
- 19 inches – 200 bpm

The DS450 nominal processing speed for folded ballots in ballots per minute (bpm):

11 inches - 92 bpm

14 inches - 75 bpm

17 inches - 63 bpm

19 inches - 50 bpm

4 CENTRAL SCANNING DEVICE (CSD)

4-2 CSD TABULATION

4.2 Describe your CSD's tabulation process.

ES&S RESPONSE

The DS200/DS450/DS850 employs two patented imaging technologies, Intelligent Mark Recognition (IMR), and Positive Target Recognition & Alignment Compensation (PTRAC), to ensure that ballot target areas are read accurately and consistently, protecting voter intent and significantly reducing adjudication.

The DS200/DS450/DS850 scans and tabulates simultaneously.

PTRAC corrects for variations in ballot alignment and printing, allowing the scanner to zero in on the marking area and digitally subtract the outline of the voting target to read only the voter's mark.

IMR then analyzes the marked pattern to determine whether the mark is valid. It can detect check marks, Xs and other common voter marks even though the number of pixels contained in the mark would not meet typical thresholds. Our competitors' optical scanners require you to set an arbitrary pixel threshold to determine what counts as a mark.

Instead, sophisticated algorithms analyze the mark's darkness (pixel density) and its directionality to determine if it was intentional. Unlike less-sophisticated scanners, the DS200/DS450/DS850 is not fooled by erasures or other stray marks and is not confused by lighter or thinner marks that would be missed by a simple threshold.

The DS450/DS850 can scan folded and other damaged ballots with full sorting options enabled. The DS450/DS850 has been uniquely designed to accept ballots that have been folded. The DS450/DS850 uses a patented technology known as TruGrip™, to provide constant contact with each ballot. By using axled, double-rollers throughout the transport and triple rollers in the imaging area, full control of the ballot is ensured from start to finish.

The DS450/DS850's TruGrip™ transport and motorized input and main output bins provide exceptional high-speed scanning of folded and damaged ballots. The DS450/DS850 has successfully counted millions of folded absentee ballots for customers in numerous elections with excellent handling of the ballots, even when the ballots were damaged.

4 CENTRAL SCANNING DEVICE (CSD)

4-3 CSD VALIDATION

4.3 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

ES&S provides documentation included in the Technical Documentation Package (TDP) that details the process for customers to perform a Hash Code Validation. All proposed equipment is capable of automatically producing a Hash Code to be compared to the Hash Code supplied by certification authorities. A hash check can be run by the jurisdiction at any time to ensure that the firmware and operating system code on the equipment and software is identical to the hash code approved by certification authorities. Successfully completing this validation on all equipment and software provides confidence that the firmware and software exactly matches the files in the certified source code.

Logic and Accuracy tests are performed using a pre-marked test deck that is properly representative of the election. The Electionware EMS provides an easy means of generating a test deck marked with the jurisdiction's required ballots and voting patterns.

Our Automated Test Deck Creation module found within Electionware Toolbox software provides a spreadsheet chart of predetermined results as well as a set of PDF files with pre-marked ovals. The information needed to create the test deck comes directly from the Electionware election definition.

The DS450/DS850 can be setup in minutes to run these ballots, generate results, and be cleared and ready for the election. Zero and Results Reports from the test can be printed at the machine and results can be transferred to Electionware using a secure USB transfer. Test data is easily cleared after the pre-election test to allow printing of zero reports, scanning of election ballots, and printing and transfer of election results.

DS200

ES&S tabulator firmware is inaccessible once installed. ES&S ballot tabulators are single-purpose devices that prevent overwriting or changing the election definition or system firmware once an election official installs the election program. Firmware and operating systems for ES&S tabulators reside in locations physically separate from each tabulator's election program. No source code, compiler or assemblers are resident in ES&S device firmware. To prevent alteration of executable code, the jurisdiction must provide a secure physical and procedural environment for the storage, handling, preparation, and transportation of the system hardware.

From a physical security standpoint, the DS200 has keyed locks and seals to protect all ballot box compartments, the tabulator platform, ballot slot, USB media device, and all other critical system components. The ES&S DS200 election definition is stored on a USB media device inside a tamper-proof, sealed, key-locked compartment. A wire seal can be placed on the media device itself to further provide physical security. The access door remains locked throughout Election Day, and the media device can remain sealed in the DS200 until the polls are closed and the media devices are removed and transported to Election Central for results accumulation.

Electionware and the DS200 share a robust Digital Signature and access code security feature. This feature provides a high level of security for data transferred between the election management software and the DS200. This system utilizes a public and private key management and security process which includes access code protection to prevent unauthorized access to critical system functions.

The actions of activating the terminal and changing the system-operating mode are physically restricted with a physical key. Administrative menus cannot be accessed without a system access code.

DS450/DS850

DS450/DS850 security features ensure the highest level of physical and system-level security for the central count environment:

- ✔ Data and system validation. The DS450/DS850 provides easy validation for all resident firmware against certified versions and generates detailed audit and event logs to support system vetting. In addition, it validates and accepts only data that contains the proper digital data encryption and signing.
- ✔ Strong physical access controls. The DS450/DS850 secures all data ports behind clear plastic lockable and sealable access doors to protect access and allow election officials to easily detect unauthorized access. All critical hardware components can be locked and sealed, as well. The DS450/DS850 logs when the imaging heads are accessed. It provides additional alerts and logs access to the service door on the back of the unit.
- ✔ Role-based access codes. The DS450/DS850 provides access codes that allow access for operator and administrative roles. Access code protection is configurable to protect all operations of the applications. Pass codes are required to access all critical functions, including Election Administration, Processing Modes, System and Hardware Maintenance, and Results functions. Supervisor functions are limited to the controls provided in the system menus.
- ✔ Protection against improper configuration. The system functions will not execute if it is improperly configured.

4 CENTRAL SCANNING DEVICE (CSD)

4-4 CSD AUDIT

4.4 Describe how the CSD assists with post-election audits.

ES&S RESPONSE

The ES&S system will allow the State to effectively and efficiently audit election results while maintaining the secrecy of the ballot.

The ES&S system meets stringent requirements for system audits to provide the supporting documentation for verifying the accuracy of reported election results. The DS450/DS850 central tabulator can be used to rapidly perform recounts. Our system includes detailed audit logs, digital images of the ballots or vote summary cards with electronically linked Cast Vote Records (CVRs), paper records, and central tabulator batch/bin reports.

DS200

The DS200 has the ability to save an image from both the front and back of the ballot. These images can be displayed in Electionware side by side with the cast vote record for the ballot image. This allows for fast and convenient post-election audits.

DS450/DS850 AND RECOUNTS

The DS450/DS850 central tabulator can be used to rapidly perform a recount of paper ballots and vote summary cards.

If a subset of ballots needs to be counted, the Electionware election management system can quickly identify the Election Districts and ballot styles associated with the recounted contest. Electionware software provides a powerful means for restricting the election definition to a subset of contests or Election Districts specified for a particular recount.

This definition can be loaded on the DS450/DS850, allowing for sorting and/or recounting of the ballots in question as permitted under a jurisdiction's election law.

AUDIT LOGS

The ES&S voting solution contains audit logs with sufficient information to allow the auditing of all operations related to election and ballot setup, ballot tabulation, results consolidation and report generation. The system audit logs are created and maintained by the system in the sequence in which operations were performed.

All audit logs contain an identification of the program and version being run, identification of the election file being used, record of all operator entries, record of all actions performed by the system or subsystems, record of all tabulation and consolidation input and a record of all ballot or system overrides performed. Only an authorized system administrator can locate, read and print the system audit logs.

The machine audit logs for all proposed voting machines list every event that occurs from the time you load your election definition via the USB media drive until you remove the media after the election is complete.

These events, which are tagged with time and date, include election-related events, errors and user interactions. The machine audit logs retain entries from all internal components capable of producing an audit log entry, such as the power management board, the hardware board and the election processing firmware. The audit logs from every unit used in the election can also be centrally viewed or printed in Electionware.

The Electionware election management system itself creates an audit log that includes all logins and actions performed by each user while logged into the application, including all results database creations, file exports and imports, report printing and results updating processes. This audit log is maintained intact from the initial start of the election cycle to the reporting of official results. In addition to the main audit log, two additional audit logs are maintained for the logging and tracking of results entered via the provided manual entry feature and when last-minute changes are made to contest and or candidate names within the module.

Electionware audit logs are maintained as an archive with every election backup. They include entries that identify the exact change, the date and time of the change, the user ID, and the module impacted.

BALLOT IMAGES/CAST VOTE RECORDS

The units providing tabulation functionality can also capture digital images of each ballot or vote summary card cast and associated Cast Vote Record (CVR), which also can be used for recounts and adjudication.

To ensure security and protect voter anonymity, the ballot images and CVRs are stored with random names assigned to each ballot image file and have their file timestamps obfuscated. Electionware provides online adjudication that retains both the CVR as initially tabulated and the adjudication board's modified CVR. The ballot image, the machine-generated original CVR, and the review board-modified CVR can be reviewed alongside each other.

PAPER TRAIL

The paper ballot or vote summary card also provides an audit trail that is available to counties in the event a recount, including manual recount, if required.

CENTRAL TABULATOR BATCH/BIN REPORTS

The DS450/DS850 central tabulator provides batch/bin reports with information about the ballots in each output bin at the time a batch is saved. The batch/bin reports contain ballot totals for a sort bin for the last batch saved. If ballots have been outstacked to the not-processed bin, the user can view or print the corresponding bin report on demand, which indicates why each ballot in the bin was outstacked. A user can manually print reports on demand or set batch/bin reports to print automatically when a scanned batch of ballots is saved. These reports can be maintained with the physical ballot batch to speed identification and retrieval for audits and recounts.

4 CENTRAL SCANNING DEVICE (CSD)

4-5 CSD EASE OF USE

4.5 Ease of Use for Local Election Officials: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

Please see included case studies.

UTAH INCREASES VOTER CONFIDENCE

through verifiable ballots and better audits

In the early 2000s, election officials across the country purchased new voting systems thanks to the Help America Vote Act (HAVA). At that time, the State of Utah chose to use their HAVA grant dollars to purchase optical scanners and direct-recording electronic (DRE) voting machines.

Fast forward to over a decade later: vote by mail has become the norm for most counties across Utah. In fact, the majority of registered voters in the state automatically receive a ballot in the mail. While the machines were standing the test of time, the increased popularity of vote by mail was starting to put a lot of pressure on the decade-plus old system that was originally designed for in-precinct voting.

In addition to managing aging voting systems and changes in voting trends, election officials in Utah were facing higher expectations for security and reliability.

The expectation being all voting machines should have the ability to audit and verify that a voter's ballot was recorded and tabulated in accordance with the voter's intent.

In the fall of 2017, the State of Utah designated Election Systems & Software (ES&S) as the state's election management provider of choice. After their extensive assessment of five different election systems providers, the State's evaluation committee determined that ES&S would provide the best value to the State.

"Through a careful and thorough procurement process, the state of Utah has chosen ES&S to lead Utah into the next generation of voting equipment. ES&S offers a wide range of voting equipment options, and I'm confident their secure and innovative election solutions will fit the needs of each county," Utah State Lieutenant Governor, Spencer J. Cox said (October 2017)

Through their extensive assessments, the State Evaluation Committee determined:

- ES&S' Electionware election management system provides a more efficient and intuitive process for ballot layout and design, as well as import and export capabilities.
- ES&S has a tabulation solution for every Utah county, all of which reduce ballot processing time and provide an efficient process for adjudicating ballots.
- ES&S ExpressVote universal voting solution combines paper-based voting with touch-screen technology to meet the needs of voters with disabilities as well as provide a permanent paper record.
- ES&S's longevity, financial stability and reputation position it as the best option to support a roll-out of new equipment in multiple counties in Utah simultaneously, and provide support and maintenance plans at different levels of service and price points.

The Old Utah



Approximately 650
Direct-Recording Electronics
and Optical scanner units



Approximately 940
Direct-Recording Electronics
and Optical scanner units



Approximately 156
Direct-Recording Electronics
and Optical scanner units

ES&S SOLUTIONS

EASY EQUIPMENT SETUP

While nearly every registered voter in Utah receives a ballot by mail, registered voters may still vote in-person on or before Election Day. In Utah, accessible voting centers are available for voters with disabilities who need assistance completing their ballot and registered voters who prefer to cast their ballot in person during early voting and on Election Day.

Weber County Elections Director Ryan Cowley was impressed with the set-up process for their new ES&S equipment. "Way, way easy. The poll workers love the easy set up — remove the locks, verify the label and lift the lid. They can focus on making sure the polling place is organized, rather than rushing to get equipment set up. It's a huge time savings. Polling place set up is not a big deal anymore, it's so simple."

"The ES&S ExpressVotes are just so much easier to use. Before, we were spending hours and hours setting up the equipment on election morning," Summit County Clerk, Kent Jones said. "On Election Day, we use the ExpressVote as a ballot marker. Voters mark their selections, print their vote summary card and then those cards are tabulated together with the ballots that came in the mail. Everything's done centrally, so we handle and see everything."



The New Utah



- (18) Ballot on Demands
- (2) DS450s
- (14) DS200s
- (9) ExpressVotes



- (27) Ballot on Demands
- (2) DS450s
- (19) DS200s
- (25) ExpressVotes



- (1) DS450
- (18) ExpressVotes

FAST, SECURE BALLOT TABULATION

With the move to vote by mail, Utah officials needed to use the optical scan machines to process election results. Utah's old optical scanners, which were originally purchased to tabulate a small number of absentee ballots, required each ballot be hand fed into the machine.

"For the 2016 presidential election, Davis County mailed out 150,000 ballots and had a total vote turnout of 140,000. We ran all 140,000 ballots by hand through four older optical scanners, one at a time. It was very labor-intensive," Davis County Elections Manager Brian McKenzie said. "With the ES&S DS450 we can just put them in a stack and let them run."

With their old optical scanners, Davis County had four staff members counting ballots full time. With their new ES&S DS450, they have one-to-two team members who spend about a fourth of the time counting ballots.

McKenzie said, *"We can keep two of the DS450s running with one, one and a half people. As one person, I couldn't work as fast as the machines."*

IMPROVED POST-ELECTION AUDITING AND ADJUDICATION

When Utah counties started using DREs in the early 2000s, the state began requiring post-election audits. Typically, the process required a team of three people to audit each machine — one person to read the tape and two people to simultaneously record votes, making sure counts matched throughout. On average, the process took about two hours.

"I have to say that I could not be more pleased with how this (ES&S) system performed and counted the ballots. Being able to compare not only how the system originally counted a ballot, but also how the ballot was adjudicated, back to the digital image of the ballot itself is truly amazing. For the first time in my career, I feel like we have a transparent and auditable system," Cowley said.

"Compared to our previous system, thanks to auto adjudication we had far less to look at. We were inspecting every ballot before we ran it through the old optical scan machine. We didn't do any of that this time - we just ran them through," Jones said.

COMPREHENSIVE ONBOARDING AND TRAINING

Utah's onboarding process with ES&S was under a compressed timeline. ES&S onboarded 19 counties in 3-4 months.

"We changed everything except for voter registration — every piece of equipment that we used to process ballots was brand new. New accessible machines, new Ballot-on-Demand machines, new precinct tabulators, new central count tabulators, and new adjudication and audit process and procedures," Cowley said. "Receipt of the equipment and the training was all very timely. The ES&S team worked with about 50 people from 21 counties demonstrating each piece of equipment — leading detailed discussions about the equipment and how we saw it working for us. The team also helped with creating new policies and procedures. We received



"When we (Davis County) did our previous audits, we would only audit the races we were required to. With the new system we figured, the whole ballot is there, let's just look at everything," McKenzie said. "We did a full audit of the entire ballot, for all races. It was a more thorough audit, it covered all the races, and it only took two hours. We were just like, 'wow, it's so much better.'"



lot of support up front, and then we're able to take that and run with it."

McKenzie said, "Our experience from the beginning up to this point with ES&S has been phenomenal. Starting out, just getting to know the ES&S system went really well, and we were so impressed with the information ES&S could provide, coupled with the general feel of professionalism of the ES&S team. The organization and logistics when we were implementing the new system was really really good, the coordination of taking out the old equipment and bringing in the new equipment, the training, the people who came in and set us up and answered any questions we had, was great."

"Learning about the new equipment was probably the easiest transition it could have been. There wasn't a huge learning curve. ES&S simplified everything," Jones said. "We spent more time teaching the judges about the signature verification process than it took to learn the equipment."

CUSTOMER SERVICE EXCELLENCE

ES&S integrates good customer service into every aspect of our business. Our enthusiasm for the work we do and for our customers is unrivaled. ES&S' team of seasoned election professionals are empowered to think on their feet and work closely with our election administration partners to customize secure and innovative solutions to fit their needs.

Davis said, "The one thing that I would just sing praises to is the customer support – when we've had to call in with any type of question, whether it be concerning software or hardware support – the people on the other end of the line were phenomenal. I've personally experienced several instances where they have gone above and beyond. There was one time when I called in, it was near end of business day, and they gave me a solution. They made themselves available after their own hours to follow up and make sure we were able to implement the solution. All of them are so good at asking questions to make sure they fully understand the situation, and then they walk you through the process. Never have I felt like I was wasting their time and never are they frustrated. I can't say enough good things about the customer support. We've had really good experiences with everyone from ES&S. If someone has a bad experience with ES&S, you'd hear about it – and we don't."



"I'm going to brag about ES&S for a little bit," Weber County Elections Director Ryan Cowley said. "One of the things I think you guys always nail is customer support. With our previous vendors there was literally no support — things like trying to get parts and supplies, we just didn't get anything. The level of support we get from ES&S is a cultural thing — it's all about making sure you get the customer what they need. There is a much higher customer-service philosophy at ES&S."



Enhancing Elections in WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the [ExpressVote](#)® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the [DS200](#)® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.
- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.
- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.
- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.
- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.
- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."
- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.



Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

- User friendliness
- Paper records adding clear voter intent
- Ease of mind having a paper back-up
- Attractive system from an administrative standpoint
- Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

“What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product” Tammy Smith, Assistant Administrator, commented. “During a visit after that, we told them we were looking for products and couldn’t find them. The next time we saw them, they brought us a catalog!”

“Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote.”

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren’t familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.



In light of this, Wilson County makes sure that updated technology isn’t a barrier for those looking to serve yet not matching the required skill set level. “We try to configure our poll place system in a way that if they aren’t good with computers we can find a place for them if possible on Election Day” Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county’s comparison of the system to a grocery store self check-out. “Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It’s so organized people can almost go through the process on autopilot.”

One, who indicated she had a computer background, complimented the start to finish technology integrations. “Going from a more manual process of selecting ballot styles for people, this is much preferred. There’s no real error, you just print their barcode and they follow the instructions on screen from there.”

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

"We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

- Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our [website](#).



Results

- 1 Smoother canvass and hand count
- 2 Reduced number of morning follow up calls
- 3 Success means that results are ready 2-3 hours sooner



Susan Thomas, Harrison County Clerk



“All you have to do is touch your selections, check your printed ballot and put it into the tabulator.”

“**Georgianna Thompson,**
Taylor County Clerk

“Commissioners were not excited about spending the money. I was fully prepared to continue maintaining the old equipment. The ExpressVote convinced them that it will pay dividends in the future.”

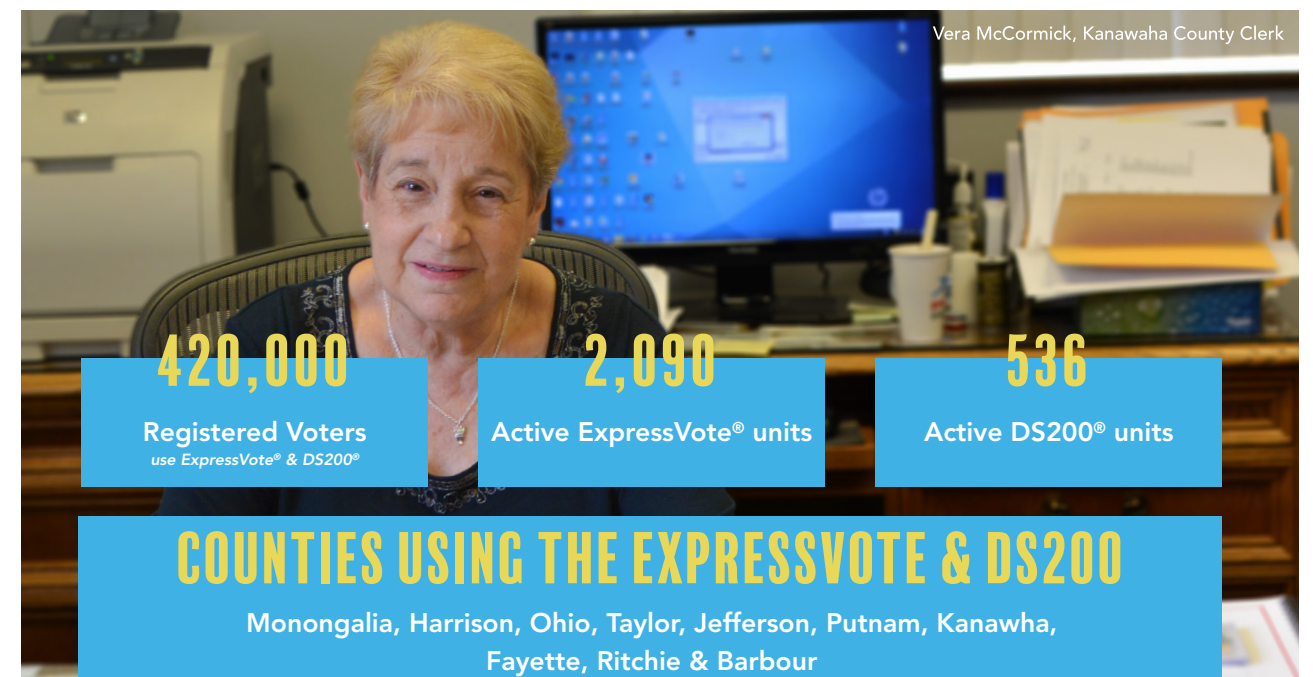
“**Brian Wood,**
Putnam County Clerk

SEE FOR YOURSELF!
Call to request a demo!

HOW WEST VIRGINIA'S Election Officials Are Reducing Costs

While Improving the Election Experience for Voters & Poll Workers

Many voters across the U.S. are casting their ballots on a generation of aging, decade-plus old optical scan and direct-recording electronic (DRE) voting machines. Election officials nationwide rushed to embrace new voting technology after Congress passed the Help America Vote Act (HAVA) in 2002, which addressed the way ballots were designed, cast and counted, and led to an overhaul of the U.S. election system and eventually the birth of the DRE and optical scan machines. **Ten plus years later another major overhaul of the U.S. election system is underway, and a number of states are seriously considering a return to paper-based voting systems.**



*stats are current as of October 2017

As with many states in the early 2000s, West Virginia faced various challenges related to becoming compliant with HAVA. At the close of the 2005 West Virginia Legislative regular session, during which a voter-verified paper trail bill was signed into law, Secretary of State Betty Ireland began her search for a pioneering elections partner that could help West Virginia do three things: 1) meet the requirements of HAVA, 2) reduce the financial burden of becoming compliant off the counties as much as possible, and 3) offer counties quality voting system options.

In August 2005, ES&S was awarded the statewide contract to provide all of West Virginia’s counties with voting systems and election services. And in 2006, just over half of West Virginia’s 55 counties, whose County Clerks manage elections at the local level, purchased DRE systems while the remaining chose to purchase optical scan voting systems paired with central scanners, creating a dual system environment across the state.

Why the change?

Fast forward ten more years, similar to many states across the U.S., while their existing voting systems were withstanding the test of time, West Virginia’s jurisdictions began the process to find a more modern system that offered a paper-verifiable record.



Brian Wood, Putnam County Clerk

“Our equipment was aging. Having partnered with ES&S for ten plus years, we knew they were always developing solutions that made our lives easier and were more efficient, dependable and cost-effective.”


“The ExpressVote® was the best of both worlds with the electronic aspect, including improved visibility and ADA compliance, along with the paper verification where the voter can hold their selections in their hands, confirm everything is accurate, and then place it in the DS200® ballot slot.”


They were also ready to put away the challenges associated with their aging equipment and find a solution that simplified election management and improved voters’ experience at the polls. Much like the avid flip-phone users, whose carriers still supported their phones, and whose flip-phones still made calls — they ultimately realized how much easier and more efficient their life could be if they had a smartphone.

“So much less to worry about and less upkeep. We no longer have to deal with all of the different consumables,” said Susan Thomas, Harrison County Clerk. “You plug them in, flip a switch, lift a screen and both are powered up within five minutes. Plus, with ExpressVote and DS200 everything is a lot simpler for us on the backend.”

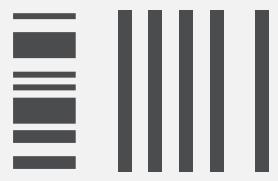
It was important to them that their new equipment made the backend of their elections easier for not only themselves and their teams, but the poll workers as well. Equipment that wasn’t hard to haul around, was easier to program and would ease the burden of having to hand count write-in and canvass ballots.

“The ballots marked on the ExpressVote require less storage due to their size, and the leftover blank cardstock can be reused in other elections. We can do satellite voting now, and don’t have to carry all of those preprinted ballots with us.”





Vera McCormick,
Kanawha County Clerk



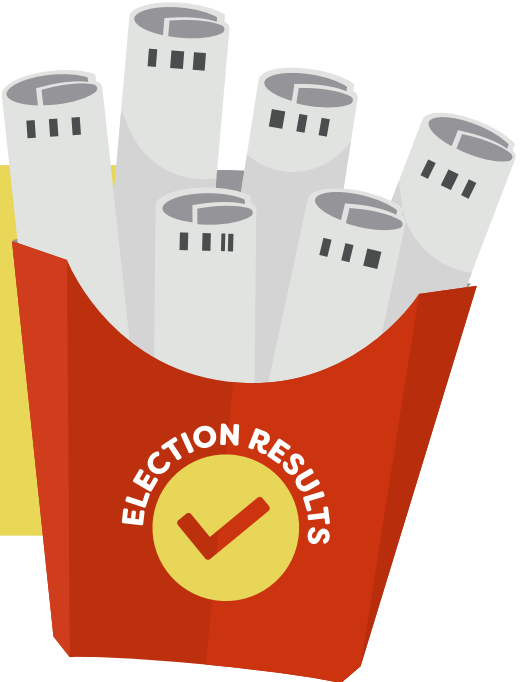
“Canvass and hand count went very smoothly; the ballot was easy to read and easy to determine the voter’s intent. NO OVERVOTES!”

The clerks wanted a truly usable summary report of the final results, a more robust in-depth audit report. They wanted to deliver their county’s election results before 3 a.m. so the candidates and the people who had worked so hard supporting them could either get their parties started or start picking up campaign signs.

“We live in a fast food world, and people want their results right away”

“The candidates and their supporters have worked for a long time to get there, so they are very anxious to get the results. So is the media ... it’s nice to give them what they need, and get them back to work by 10 p.m. instead of 3 a.m.”

Brian Wood, Putnam County Clerk



Most importantly, they wanted every one of their voters to have a consistent, simple and secure election experience. This included having only one system to vote on, that was easy to use and that included a verifiable paper record that allowed them to confirm that the selections they marked were what they intended.

“We demo’ed the equipment in several different locations with seniors, many of which who were in their 90s. We didn’t really have to explain much to them as far as how to use it, and everyone liked it,” said McCormick. “They liked having a piece of paper in their hand that they could hold, so there was no guessing.”

4 CENTRAL SCANNING DEVICE (CSD)

4-6 CSD CAPACITY

4.6 Ballot Scanning Capacity: Describe the number of ballots per minute that can be scanned, imaged, and tabulated by the proposed CSD. Specify by ballot type and size.

ES&S RESPONSE

DS200

The DS200 nominal processing speed (scan, image, tabulate) in ballots per minute (bpm): 11 inches - 12 bpm; 14 inches - 11 bpm; 17 inches – 10.5 bpm; 19 inches - 10 bpm.

The DS200 was designed to provide a very cost-effective, efficient tabulator for smaller counties. The DS200 scans, images and tabulates with the average throughput of approximately 10-12 ballots per minute.

DS450

The DS450 operates at the same speed for both folded and non-folded ballots. The average optimum throughput for 14-inch ballots is approximately 75 ballots per minute, with full sorting options enabled. With full sorting options enabled, the DS450 scans at the following rates: 11-inch ballots: 5,520 per hour; 14-inch ballots: 4,500 per hour; 17-inch ballots: 3,780 per hour; 19-inch ballots: 3,000 per hour. Additional time is required to load ballots, empty output hoppers, clear jams and print reports.

DS850

The DS850 operates at the same speed for both folded and non-folded ballots. The average optimum throughput for 14-inch ballots is approximately 300 ballots per minute, including folded ballots, with full sorting options enabled. With full sorting options enabled, the DS850 scans at the following rates: 11-inch ballots: 21,600 per hour; 14-inch ballots: 18,000 per hour; 17-inch ballots: 15,000 per hour; 19-inch ballots: 13,800 per hour. Additional time is required to load ballots, empty output hoppers, clear jams and print reports.

4 CENTRAL SCANNING DEVICE (CSD)

4-7 CSD ENVIRONMENT

4.7 Describe how the proposed CSD handles adverse environmental and physical ballot conditions (i.e. water, humidity, bent or torn ballots, etc.).

ES&S RESPONSE

All proposed devices have been designed to meet or exceed VVSG requirements for performance in a wide range of climates and humidity levels without ballot jams or other malfunctions. Following are the environment operation and storage requirements for each device:

Tested temperature ranges:

- ✔ DS200 – Operation (+40 to +95 degrees Fahrenheit); Storage (-4 to +140 degrees Fahrenheit)
- ✔ DS450/DS850 - Tested Temperature Range: +50 to +95 degrees Fahrenheit
- ✔ DS450/DS850 - Tested Relative Humidity: 10% to 88%

The DS200/DS450/DS850 has been uniquely designed to accept ballots that have been folded, creased ballots with stubs torn off, irregularities, and otherwise damaged ballots. The scanner's paper transport safely guides folded ballots through the read heads to avoid paper jams or misreads.

5 BALLOT MARKING DEVICE (BMD)

5-1 BMD

5.1 Complete the attached form titled "Ballot Marking Device" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment L - Ballot Marking Device**.

Vendor: Election Systems & Software, LLC **Attachment L - Ballot Marking Device**

Ballot Marking Device (BMD) For use in polling places (Election Day and Absentee In-Person voting) by voters to prepare the ballot that will be scanned, imaged, and tabulated. Describe all answers regarding your BMD solution. The proposed BMD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Capabilities			
a. Load election configuration information via encrypted removable memory devices created by the EMS or through a direct connection to the EMS through a secure LAN.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Electionware's Package Module creates election definition files and saves them to portable USB memory devices for installation on ES&S digital scan and accessible equipment. Electionware's Package Module provides a simple, intuitive method for preparing USB memory devices for the DS200 precinct ballot counters and for the ExpressVote ballot marking device.	ExpressVote Ballot Marking Device Sale
b. Provide ability for user to conduct pre-election testing on all functions of the BMD with outputs of the testing stored internally by the BMD or to the encrypted, removable memory device loaded to the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The ExpressVote provides the ability for county election staff to conduct pre-election testing on all functions of the device with outputs of the testing stored to its encrypted, removable memory device.</p> <p>To perform readiness testing, the ExpressVote must first be cleared and initialized, and the election definition must be loaded. All pre-election L&A activity is logged to the removable media device. No vote data is stored on the unit, since it is a BMD only and not a tabulator.</p>	ExpressVote Ballot Marking Device Sale

<p>c. Utilize a touchscreen interface to securely access the functionality of the device as required for pre-election setup and testing, election operational use (opening and closing of the polling place), and post-election use.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressVote features a large 15-inch touchscreen.</p> <p>The ExpressVote screen responses are intuitive and guides the voter through the voting session with easy-to read instructions and prompts and/or clear audio instructions.</p> <p>The ExpressVote displays status and error messages on the unit's color touchscreen. Messages are displayed in full text or numeric format. All ExpressVote error messages requiring intervention by an operator or election staff at the voting location are displayed unambiguously in easily understood language text on the display.</p> <p>Situations that require poll worker interaction are displayed clearly in plain text.</p>	<p>ExpressVote Ballot Marking Device</p> <p>Sale</p>
<p>d. Have secure access to internal memory and removable memory components.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressVote can be outfitted with tamper-evident security seals and/or locks. The ES&S ExpressVote election definition media device is secured behind a locking panel on the left side of the device. The ExpressVote locking door protects access to USB ports used for media insertion, as well as switches for powering the unit off and on and switching between voter and administrative functions. Within this locking compartment, a sealable cover can be in place over the election definition media so that it cannot be accessed when the power and mode buttons are accessed.</p>	<p>ExpressVote Ballot Marking Device</p> <p>Sale</p>

e. Utilize a touchscreen interface for viewing, navigating, and marking displayed ballot.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote features a large 15-inch touchscreen which guides the voter through viewing, navigating and marking a ballot. The interconnected touch screen and navigational keypad buttons are used to complete all required operations. On the touch screen interface, various colors and accessibility-enhancing effects have been selected to prompt and guide the voter. These digital buttons meet all applicable guidelines regarding size and readability.	ExpressVote Ballot Marking Device Sale
f. Describe how the voter accesses the ballot on the BMD.	Describe.	When the “To begin voting, insert your card” screen is displayed, the voter will insert an unmarked card into the input slot and the correct ballot style is automatically presented on the ExpressVote screen. If multiple languages are available, the voter starts by selecting their preferred language when then presents all instructions ballot content, and audio their language of choice. The voter may use the buttons at the bottom of the screen to access display options and navigate the card (Previous, Zoom, Exit, Contrast, and Next). The voter selects a candidate or contest choice by touching anywhere in the candidate/contest selection box. The selection will be highlighted in yellow, and a check mark will appear. The ExpressVote offers a Summary Page verification screen that summarizes the voter's selections in each contest or	ExpressVote Ballot Marking Device Sale

		<p>question. Upon completing a voting session on the ExpressVote, the thermal card stock/ballot is printed and ejected to the voter. They then insert the card into the DS200 for tabulation. A confirmation screen provides clear feedback to the voter that their ballot has been successfully tabulated.</p>	
g. Describe the look and feel of the BMD User Interface.	Describe.	<p>The interconnected touch screen and tactical navigational keypad buttons provide complete independence for the voter as he or she casts a ballot. The official ballot is provided simultaneously in both audio and visual formats. The ExpressVote automatically protects against overvotes and can alert the voter to undervotes.</p> <p>The ExpressVote allows blind, low-vision, and limited-dexterity voters to privately listen to instructions and selections at a volume, tone, and speed that will meet their unique needs. They cast their votes unassisted, thereby maintaining their privacy and anonymity. Multiple user interfaces that include touch screen, Braille-embossed keypad, sip and puff tube, and foot pedal or other two-way switch.</p> <p>* Audio voting session via text-to-speech or .wav files.</p> <p>* Ability for voter to select speed, tone, and volume.</p>	ExpressVote Ballot Marking Device Sale

		<p>* High-visibility on-screen ballots.</p> <p>* Voter-selected font size and contrast settings.</p> <p>Voters review a summary page and can make changes before casting ballots. A voter's selection changes will not spoil the voting session. The ExpressVote system produces a verifiable paper record for each voter that is digitally scanned for tabulation. ExpressVote neither stores nor tabulates vote counts. The system is always secure – the election definition USB memory device is protected in a locked environment. for tabulation. ExpressVote neither stores nor tabulates vote counts. The system is always secure – the election definition USB memory device is protected in a locked environment.</p> <p>The ExpressVote system can serve every eligible voter, including those with special needs. The ExpressVote was developed with universal design principles applied for use by all voters, with or without visual impairments, hearing issues, or need for physical accommodations.</p> <p>As a fully compliant ADA (Americans with Disabilities Act) voting solution, ExpressVote enables each voter to cast his or her ballot independently.</p>	
h. Give the voter the ability to select desired language in which to view, navigate, and mark the displayed ballot.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote has multilingual capabilities, ensuring that citizens in a diverse population can exercise their privilege to vote in	ExpressVote Ballot Marking Device Sale

		<p>their native languages, and/or change the language at any time during the voting process, without losing selections already made. Available languages can be part of the election coding and can be precinct-specific such that a jurisdiction could ensure certain precincts have English only whereas other precincts have English and Spanish.</p> <p>If multiple languages are part of the election definition, the voter is prompted to select their language at the beginning of the voting session. The voting session then proceeds with all voting content, instructions, and audio in the voter's selected languages. The voter may also choose to change the language at any time during the voting session.</p>	
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Attachment L - Ballot Marking Device

Ballot Marking Device (BMD) For use in polling places (Election Day and Absentee In-Person voting) by voters to prepare the ballot that will be scanned, imaged, and tabulated. Describe all answers regarding your BMD solution. The proposed BMD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
i. Give the voter the ability to magnify the display on the touchscreen interface.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote accommodates voters with visual disabilities by providing the ability to display all information in font sizes 3.0-4.0 and up to 6.3mm-9.0mm by touching a Zoom icon.	ExpressVote Ballot Marking Device Sale
j. Give the voter the ability to adjust the contrast of the display on the touchscreen interface.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The contrast can be changed by touching a Contrast icon. Re-selecting returns the display back to its original state. The device is designed at a minimum to meet all VVSG accessibility requirements.	ExpressVote Ballot Marking Device Sale
k. Give the voter the ability to access, navigate, and mark an audio-assisted ballot without direct assistance from a poll worker.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>As a fully compliant ADA (Americans with Disabilities Act) voting solution, the ExpressVote enables each voter to vote independently and privately. It combines paper-based voting with multiple user interfaces, including a large, easy-to-read touchscreen with zoom and high-contrast capabilities, a two-switch port that accommodates mobility-restricted assistive devices such as rocker paddles and sip-and-puff.</p> <p>The Braille-embossed keypad, along with the built-in audio jack for the provided headphones, enable the visually impaired voter to navigate the ballot easily.</p>	ExpressVote Ballot Marking Device Sale

<p>l. Produce a physical, voter-handled ballot containing the voter's selections from the marks made while viewing and navigating the displayed ballot on the BMD that can be scanned, imaged, and tabulated by the PPS and/or CSD.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressVote produces a physical, voter-verifiable paper ballot that is generated after each voting session and can subsequently be scanned and tabulated by the DS200 precinct/central scanner or the DS450/DS850 central scanner.</p>	<p>ExpressVote Ballot Marking Device Sale</p>
<p>m. The physical, voter-handled ballot produced by the BMD must be marked in a manner that does not fade, smear, or degrade, when stored properly, over a 22-month period of time that begins upon the certification of the election. Describe your ability to meet this requirement.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressVote card can be retained for periods well beyond the 22-month retention of records period.</p> <p>The ExpressVote activation cards use a thermal card stock that is nominally rated with a shelf life that significantly exceeds 22 months. The printed content has been proven in the field to last well beyond the 22 months and still be clearly readable and scannable. Voter-marked paper ballots using the approved stock and printing methods have also been shown to easily exceed the 22-month requirement.</p>	<p>ExpressVote Ballot Marking Device Sale</p>
<p>n. Contain an internal backup power supply that, in the event of a power failure, permits the device to continue normal operation for a minimum of two (2) continuous hours.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>If external power is lost, the ExpressVote seamlessly reverts to a backup battery that allows it to operate normally for at least 2-4 hours. This battery backup is fully integrated into the unit and includes the ability to print the vote summary. When the battery gets low, the system will initiate a graceful shutdown before the battery is fully exhausted. to ensure no ballots are being printed or data is being written to the USB flash drive during shutdown of the unit. When power returns, a recovery procedure allows voting to resume.</p>	<p>ExpressVote Ballot Marking Device Sale</p>

<p>o. Be capable of withstanding frequent loading and unloading, stacking and unstacking, assembling, disassembling, reassembling, and other routine handling in the course of normal storage and distribution to and from polling locations.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>ES&S specifically designed, engineered and created all our voting equipment to be able to withstand the rigors that come with transporting, setting up, voting on, and tearing down of the equipment over and over. This equipment was built to last a minimum of 10-15 years while being the easiest, most voter friendly system in the industry today.</p> <p>The ExpressVote device comes with a durable, soft-sided carrying case and may be stacked eight (8) units high in storage. Durability of the machine has been confirmed in that it has passed all environmental and physical “drop” tests required by the federal standards.</p>	<p>ExpressVote Ballot Marking Device Sale</p>
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Vendor: Election Systems & Software, LLC **Attachment L - Ballot Marking Device**

Ballot Marking Device (BMD) For use in polling places (Election Day and Absentee In-Person voting) by voters to prepare the ballot that will be scanned, imaged, and tabulated. Describe all answers regarding your BMD solution. The proposed BMD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
p. Operate on standard 110/120 V AC Power	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote operates from 110/120V AC power.	ExpressVote Ballot Marking Device Sale
q. Maintain an audit log of each activity occurring on the BMD that includes at least the following:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote maintains an audit log of each activity including the below requirements.	ExpressVote Ballot Marking Device Sale
<ul style="list-style-type: none"> Date/time of the event 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All incidents are tagged with the time and date the incident occurred based on ExpressVote's real-time clock time-and-date stamp settings. Logs are constantly updated in the system background and saved to the inserted USB memory device.	ExpressVote Ballot Marking Device Sale
<ul style="list-style-type: none"> Description of event 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote maintains an audit log or operations log that records all significant operational events, including election-related events, errors and operator interactions with the device, that have occurred on the unit. The operations log provides critical and non-critical status messages. The system log includes all entries reported in the operations log plus low-level system events.	ExpressVote Ballot Marking Device Sale
<ul style="list-style-type: none"> Timestamps 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All incidents are tagged with the time and date the incident occurred based on ExpressVote's real-time clock time-and-date stamp settings. Logs are constantly updated in the system background and saved to the inserted USB memory device	ExpressVote Ballot Marking Device Sale

		in a circular buffer.	
<ul style="list-style-type: none"> Device serial number 	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote system displays serial numbers both physically and within any applicable software, logs, and reports.	ExpressVote Ballot Marking Device Sale
r. Continually conduct internal system diagnostics while in use and immediately report issues on the touchscreen interface.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>Self-diagnostic tests verify firmware is properly installed upon system startup. Initial reports identify the installed election program and firmware versions. Any errors loading system firmware or election programming result in equipment shutdown with a clear error message.</p> <p>At that time, and at any time during the voting process, the ExpressVote provides poll workers with clear messages describing the issue and how to resolve it.</p>	ExpressVote Ballot Marking Device Sale

Ballot Marking Device (BMD) For use in polling places (Election Day and Absentee In-Person voting) by voters to prepare the ballot that will be scanned, imaged, and tabulated. Describe all answers regarding your BMD solution. The proposed BMD solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Narrative:

NARRATIVE

The ExpressVote® Universal Voting System combines paper-based voting with touch-screen technology to create a breakthrough in voting solutions.

Voters use the touch screen to mark their vote selections, receiving a verifiable paper vote record upon completion. The ExpressVote is used during early voting and on Election Day to serve every eligible voter, including those with special needs. During disability testing campaigns and in live elections nationally, the ExpressVote continues to dominate the competitor's systems, earning high praise and appreciation. The ExpressVote is the election industry's Number 1 selling early and Election Day solution.

EXPRESSVOTE: KEY FEATURES & BENEFITS

- ✔ **Ease of use and setup.** The intuitive design offers easy-to-follow instructions for election officials, poll workers and voters. There is no complicated technology to manage or program. The ExpressVote is easy for poll workers to open and close in four simple steps. The unit's small size and light weight make it easy to transport and store.
- ✔ **Touch-screen interface.** Voters touch a 15-inch touch screen to mark their selections and review a summary of their selections. If the voter wants to change his or her vote, they can do so at that time. The ExpressVote notifies voters of overvotes and undervotes with on-screen prompts and feedback.
- ✔ **Security Controls.** The ExpressVote uses a variety of functions to ensure election data is secure. Physical security including tamper-evident devices secure the unit and alert election officials of unauthorized access. The operating software requires security access codes for system access during equipment preparation, testing and operation. These safeguards cannot be bypassed or deactivated during system installation or operation, maintaining the integrity of the election data and audit record. The ExpressVote generates a detailed, time-stamped audit record every action and event, including access attempts, access of system functions and errors that occurred on the unit.
- ✔ **Controlled & reduced costs.** The ExpressVote uses an internal thermal printer to print vote selections, eliminating the need to replace costly consumables like ink, toner or drums. Unused cards can be used in future elections, which eliminates waste. Reducing the need and expense for pre-printed paper ballots cuts traditional ballot printing costs significantly. ExpressVote makes budgeting for recurring expenses easy and accurate.
- ✔ **Verifiable paper record.** After all selections are verified on the touch screen; the unit produces a paper vote summary card that provides voters another opportunity to review their selections and verify that their vote was recorded accurately before submitting for tabulation. The vote summary card also serves as an audit trail for election officials.
- ✔ **Accessibility Compliant.** The ExpressVote can serve every eligible voter across the State of Georgia, including those with disabilities. As a fully compliant Americans with Disabilities Act (ADA) voting solution, the ExpressVote provides each voter accessibility and independence. The unit easily accommodates ADA voting solutions such as headphones, sip-and-puff device, two-position rocker switch and audio-tactile keypad.

5 BALLOT MARKING DEVICE (BMD)

5-2 BMD VALIDATION

5.2 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

ES&S provides documentation included in the Technical Documentation Package (TDP) that details the process for customers to perform a Hash Code Validation. All proposed equipment is capable of automatically producing a Hash Code to be compared to the Hash Code supplied by certification authorities. A hash check can be run by the jurisdiction at any time to ensure that the firmware and operating system code on the equipment and software is identical to the hash code approved by certification authorities. Successfully completing this validation on all equipment and software provides confidence that the firmware and software exactly matches the files in the certified source code.

Additionally, Logic and accuracy (L&A) testing is performed well before the election to verify that the election definition generated for each voting device matches the election being held, and that all contests and candidates are accurately reflected on each ballot style and on reports. L&A testing verifies that all voting positions can be voted, and whether each contest can be voted for the maximum number of eligible candidates.

Pre-election L&A testing involves setting up the voting system for each voting location in the election, loading the election definition, opening the election, casting a known pattern of votes on each ballot (or card) style, closing the election, printing the vote totals then comparing the printed vote totals with the known pattern of votes.

After using the ExpressVote to generate printed vote summary cards that match the voting pattern for testing, election officials will use the DS200 to tabulate those cards and verify that the voting results match the expected results for the test voting pattern.

- ✓ Access controls. The operating software provides security access controls to limit or detect access to critical system components and to guard against loss of system integrity, availability, confidentiality, and accountability. If any files have changed, the system will alert the user and will not continue until the issue is resolved.
- ✓ System function protection. System functions are only executable in the manner and order intended, and only under the intended conditions.
- ✓ Control logic. Control logic prevents ballot marking if any preconditions to this function have not been met.
- ✓ Tamper protection. Hardware is designed to protect against tampering during system repair, or interventions in system operations in response to system failure. The USB compartment is key-locked and has a place for the County to add a tamper-evident seal. All data is protected with a secure hash code. All ports, doors, openings and data access points are protected by lockable,

sealable clear plastic doors to protect access and allow election officials to easily detect unauthorized access.

- ✔ System access limited. System access during equipment preparation, testing, and operation is limited by access code.
- ✔ Security safeguard protection. Security safeguards cannot be bypassed or deactivated during system installation or operation by the user.
- ✔ Logs. The ExpressVote has an audit log. The log keeps track of all voter operations, tracks issues, and any unit hardware failures. The logs are accessed and can be printed through Electionware.

Officials should retain all paper ballots and election results USB memory devices to ensure system security and provide audit trail for forensic investigation.

5 BALLOT MARKING DEVICE (BMD)

5-3 BMD TRANSITION

5.3 Describe how the proposed BMDs transition from Absentee In-Person voting to Election Day use.

ES&S RESPONSE

With the ES&S system, in-person early voting is integrated with the overall voting system. The devices that produce or process the in-person early ballots are programmed from the same database and election definition that is used to program the devices used on Election Day.

The ExpressVote is also tailor-made for in-person early voting. The ExpressVote can provide an audio/visual ballot for any allowable ballot style at a voting location. Furthermore, the ExpressVote units used for early voting can easily be repurposed for Election Day because no votes are stored on the devices.

The ExpressVote activation card is tabulated on the ES&S tabulators. Results from early voting can be collected into separate categories in Electionware reporting module for separate reporting and are also allocated to their separate precincts. Absentee/early voting results are merged seamlessly into Election Day results.

5 BALLOT MARKING DEVICE (BMD)

5-4 BMD EASE OF USE

5.4 Ease of Use for Local Election Officials and Voters: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

Please see the included case studies.

EXPRESSVOTE GETS PUT TO THE TEST

Blindbargains.com Tested Three Modern Voting Machines for Accessibility

Recently the Michigan Bureau of Elections held a Mock Election, allowing testers and poll workers to use voting systems from three different vendors, including our ExpressVote, designed for both voters with disabilities and voters without. One of the testers, J.J. Meddaugh with Blindbargains.com tested all the offerings, concluding that the ExpressVote was the best choice of the group being the only one he would recommend in its current form. For more details about each voting system Mr. Meddaugh experienced read a summary of his article below.

Dominion ImageCast Democracy Suite

The voting system from Dominion included an accessible keypad, touchscreen and a printer for paper ballots. Initial set-up of the machine required the use of a digital programming card which included information to load and verify the ballot. While I was able to insert the card, several set-up steps needed to be performed by a poll worker. Among these were choice of language, and the screen privacy guard option, which allows a voter to turn off the visual screen output. It's worth noting that this is the only machine which does not allow the voter to change this setting after initial set-up.

Once speech was finally available, I was presented with initial instructions read by Google's Android text-to-speech voice and an options menu which allowed me to change volume, speech rate and visual display options. Unfortunately, the maximum volume was not loud enough for a noisy room, and the fastest speech rate was less than what is available on Android and too slow for an advanced speech user.

The keypad features buttons in various shapes which can be readily identified. Left and right arrows are on the left side while up and down arrows are on the right. There is a large X in the center which is used for selection. Dedicated buttons to adjust the volume and speech rate are found near the top. All buttons have braille labels near them, though the layout of the keys often made the placement of the braille labels confusing. The design choice to place the two sets of arrows far away from each other is perplexing at best.

The machine was plagued by user interface issues, often requiring the voter to press several key presses to accomplish a simple task. For example, when reviewing a ballot, if the user wanted to change a vote from NO to Yes, no less than 9 key presses were required to accomplish this task. In addition, the function of the right and down arrows are duplicated, as well as the up and left arrows. I was told this was done because of the needs of low vision users, but it made the navigation of the ballot needlessly time-consuming and complicated. Often, help and tutorial messages were spoken before important content, such as when speaking the name of an entered write-in candidate.

Another issue arose when speaking the names of the candidates and ballot proposal language. This information was spoken using the Cepstral text-to-speech engine, with the recordings in a much lower quality and volume than the rest of the speech feedback. Using the same text-to-speech voice throughout the system would be ideal. Care also needs to be taken when speaking the titles of ballot proposals and other items. The word millage, a common election term, was mispronounced.

Help information was given throughout the process, and presented in the manner of screen reader hints. Speech could be easily interrupted if the user chose to not listen to the help information.

While I was able to complete and print my ballot, I'm hard-pressed to recommend this system in its current form. That being said, many of the issues identified are software-based and could be fixed using a firmware update.

Hart InterCivic Verity Touch Writer

Hart InterCivic calls their Verity system “The Future of Elections”. To be completely blunt, if this is the case, I’m worried for the state of accessible voting equipment.

Set-up involved the poll worker entering in a code to load the appropriate ballot using the touch-screen. This process did not include speech feedback and was not accessible. Once the ballot was loaded, pre recorded instructions in a male voice were spoken through the headset.

The accessible keypad includes two buttons (Select and Help), and a dial called the Move Wheel which can be turned using the thumb. The dial emulates arrow keys and allows the user to go through menus while the Select button locks in the current choice. The use of only three controls was an intentional design choice, but it quickly became limiting when attempting to efficiently navigate the screen.

The initial screen included a menu to adjust audio settings including volume and speech rate. To adjust the volume, one must select the raise or lower options and then press select for the new volume level to take effect. This is the only machine of the

three tested which did not include dedicated volume and speed controls, which presents a hassle if one wants to make adjustments during the voting process. Only three speech rates were available, with the fastest option still quite slow for advanced users. In addition, since human speech is used throughout the process, the faster speech level resulted in choppiness and audio artifacts which made it more difficult to understand the recorded prompts.

I did not complete my ballot with this machine because of one major reason...HORRENDOUS LAG. Users of electronic devices may often become frustrated when it takes a quarter second or more to hear audio feedback after pressing a button. When using the Move dial on the Verity, it often took 3 or 4 seconds for any feedback to be given after the dial was turned. In addition, after pressing the Help button, it was often difficult or impossible to interrupt the instructional message and return to the previous screen.

After spending about 10 minutes with the machine and still working on my first ballot selection of 23 contests, my frustration level reached a point where I had completely lost interest in completing my ballot.

ES&S ExpressVote

With my faith in modern voting technology quickly running out, I moved to the last of the machines, The ExpressVote from Election Systems & Software. ES&S purchased the assets of the former AutoMARK system, and the design of this model takes many cues from the previous version, which is a good thing.

I walked up to the machine and inserted my paper ballot into the reader, which immediately caused speech feedback to begin. No intervention was necessary from the election workers.

The keypad includes a rocker button for Volume labeled VOL in braille and another for voice speed labeled TPO for tempo. To the left of this is a five-way navigation pad with a select button in the center. A button to turn on and off screen input can be found near

the top. Beeps are heard when buttons are pressed, and speech feedback is given within a quarter second. A more modern male voice is used on this model, as opposed to Eloquence speech on the AutoMARK, but it was clear and easily understood.

For those familiar with the AutoMARK, the voting process was nearly identical. Up and down arrows are used to move through ballot choices, and right and left arrows move between contests. For new users, contextual help information is given as hints. Warnings are given if a ballot question is skipped without the appropriate number of votes or if a user attempts to vote for too many candidates in a contest. Overall, I completed my 23-question ballot in about 5 minutes.

CONCLUSION

Of the three systems tested , the ExpressVote is the only one I am comfortable recommending in its current form. Set-up was achieved independently by the voter, prompts were spoken efficiently, and a ballot could be completed using the fewest number of key presses.

UTAH INCREASES VOTER CONFIDENCE

through verifiable ballots and better audits

In the early 2000s, election officials across the country purchased new voting systems thanks to the Help America Vote Act (HAVA). At that time, the State of Utah chose to use their HAVA grant dollars to purchase optical scanners and direct-recording electronic (DRE) voting machines.

Fast forward to over a decade later: vote by mail has become the norm for most counties across Utah. In fact, the majority of registered voters in the state automatically receive a ballot in the mail. While the machines were standing the test of time, the increased popularity of vote by mail was starting to put a lot of pressure on the decade-plus old system that was originally designed for in-precinct voting.

In addition to managing aging voting systems and changes in voting trends, election officials in Utah were facing higher expectations for security and reliability.

The expectation being all voting machines should have the ability to audit and verify that a voter's ballot was recorded and tabulated in accordance with the voter's intent.

In the fall of 2017, the State of Utah designated Election Systems & Software (ES&S) as the state's election management provider of choice. After their extensive assessment of five different election systems providers, the State's evaluation committee determined that ES&S would provide the best value to the State.

"Through a careful and thorough procurement process, the state of Utah has chosen ES&S to lead Utah into the next generation of voting equipment. ES&S offers a wide range of voting equipment options, and I'm confident their secure and innovative election solutions will fit the needs of each county," Utah State Lieutenant Governor, Spencer J. Cox said (October 2017)

Through their extensive assessments, the State Evaluation Committee determined:

- ES&S' Electionware election management system provides a more efficient and intuitive process for ballot layout and design, as well as import and export capabilities.
- ES&S has a tabulation solution for every Utah county, all of which reduce ballot processing time and provide an efficient process for adjudicating ballots.
- ES&S ExpressVote universal voting solution combines paper-based voting with touch-screen technology to meet the needs of voters with disabilities as well as provide a permanent paper record.
- ES&S's longevity, financial stability and reputation position it as the best option to support a roll-out of new equipment in multiple counties in Utah simultaneously, and provide support and maintenance plans at different levels of service and price points.

The Old Utah



Approximately 650
Direct-Recording Electronics
and Optical scanner units



Approximately 940
Direct-Recording Electronics
and Optical scanner units



Approximately 156
Direct-Recording Electronics
and Optical scanner units

ES&S SOLUTIONS

EASY EQUIPMENT SETUP

While nearly every registered voter in Utah receives a ballot by mail, registered voters may still vote in-person on or before Election Day. In Utah, accessible voting centers are available for voters with disabilities who need assistance completing their ballot and registered voters who prefer to cast their ballot in person during early voting and on Election Day.

Weber County Elections Director Ryan Cowley was impressed with the set-up process for their new ES&S equipment. "Way, way easy. The poll workers love the easy set up — remove the locks, verify the label and lift the lid. They can focus on making sure the polling place is organized, rather than rushing to get equipment set up. It's a huge time savings. Polling place set up is not a big deal anymore, it's so simple."

"The ES&S ExpressVotes are just so much easier to use. Before, we were spending hours and hours setting up the equipment on election morning," Summit County Clerk, Kent Jones said. "On Election Day, we use the ExpressVote as a ballot marker. Voters mark their selections, print their vote summary card and then those cards are tabulated together with the ballots that came in the mail. Everything's done centrally, so we handle and see everything."



The New Utah



- (18) Ballot on Demands
- (2) DS450s
- (14) DS200s
- (9) ExpressVotes



- (27) Ballot on Demands
- (2) DS450s
- (19) DS200s
- (25) ExpressVotes



- (1) DS450
- (18) ExpressVotes

FAST, SECURE BALLOT TABULATION

With the move to vote by mail, Utah officials needed to use the optical scan machines to process election results. Utah's old optical scanners, which were originally purchased to tabulate a small number of absentee ballots, required each ballot be hand fed into the machine.

"For the 2016 presidential election, Davis County mailed out 150,000 ballots and had a total vote turnout of 140,000. We ran all 140,000 ballots by hand through four older optical scanners, one at a time. It was very labor-intensive," Davis County Elections Manager Brian McKenzie said. "With the ES&S DS450 we can just put them in a stack and let them run."

With their old optical scanners, Davis County had four staff members counting ballots full time. With their new ES&S DS450, they have one-to-two team members who spend about a fourth of the time counting ballots.

McKenzie said, *"We can keep two of the DS450s running with one, one and a half people. As one person, I couldn't work as fast as the machines."*

IMPROVED POST-ELECTION AUDITING AND ADJUDICATION

When Utah counties started using DREs in the early 2000s, the state began requiring post-election audits. Typically, the process required a team of three people to audit each machine — one person to read the tape and two people to simultaneously record votes, making sure counts matched throughout. On average, the process took about two hours.

"I have to say that I could not be more pleased with how this (ES&S) system performed and counted the ballots. Being able to compare not only how the system originally counted a ballot, but also how the ballot was adjudicated, back to the digital image of the ballot itself is truly amazing. For the first time in my career, I feel like we have a transparent and auditable system," Cowley said.

"Compared to our previous system, thanks to auto adjudication we had far less to look at. We were inspecting every ballot before we ran it through the old optical scan machine. We didn't do any of that this time - we just ran them through," Jones said.

COMPREHENSIVE ONBOARDING AND TRAINING

Utah's onboarding process with ES&S was under a compressed timeline. ES&S onboarded 19 counties in 3-4 months.

"We changed everything except for voter registration — every piece of equipment that we used to process ballots was brand new. New accessible machines, new Ballot-on-Demand machines, new precinct tabulators, new central count tabulators, and new adjudication and audit process and procedures," Cowley said. "Receipt of the equipment and the training was all very timely. The ES&S team worked with about 50 people from 21 counties demonstrating each piece of equipment — leading detailed discussions about the equipment and how we saw it working for us. The team also helped with creating new policies and procedures. We received



"When we (Davis County) did our previous audits, we would only audit the races we were required to. With the new system we figured, the whole ballot is there, let's just look at everything," McKenzie said. "We did a full audit of the entire ballot, for all races. It was a more thorough audit, it covered all the races, and it only took two hours. We were just like, 'wow, it's so much better.'"



lot of support up front, and then we're able to take that and run with it."

McKenzie said, "Our experience from the beginning up to this point with ES&S has been phenomenal. Starting out, just getting to know the ES&S system went really well, and we were so impressed with the information ES&S could provide, coupled with the general feel of professionalism of the ES&S team. The organization and logistics when we were implementing the new system was really really good, the coordination of taking out the old equipment and bringing in the new equipment, the training, the people who came in and set us up and answered any questions we had, was great."

"Learning about the new equipment was probably the easiest transition it could have been. There wasn't a huge learning curve. ES&S simplified everything," Jones said. "We spent more time teaching the judges about the signature verification process than it took to learn the equipment."

CUSTOMER SERVICE EXCELLENCE

ES&S integrates good customer service into every aspect of our business. Our enthusiasm for the work we do and for our customers is unrivaled. ES&S' team of seasoned election professionals are empowered to think on their feet and work closely with our election administration partners to customize secure and innovative solutions to fit their needs.

Davis said, "The one thing that I would just sing praises to is the customer support – when we've had to call in with any type of question, whether it be concerning software or hardware support – the people on the other end of the line were phenomenal. I've personally experienced several instances where they have gone above and beyond. There was one time when I called in, it was near end of business day, and they gave me a solution. They made themselves available after their own hours to follow up and make sure we were able to implement the solution. All of them are so good at asking questions to make sure they fully understand the situation, and then they walk you through the process. Never have I felt like I was wasting their time and never are they frustrated. I can't say enough good things about the customer support. We've had really good experiences with everyone from ES&S. If someone has a bad experience with ES&S, you'd hear about it – and we don't."



"I'm going to brag about ES&S for a little bit," Weber County Elections Director Ryan Cowley said. "One of the things I think you guys always nail is customer support. With our previous vendors there was literally no support — things like trying to get parts and supplies, we just didn't get anything. The level of support we get from ES&S is a cultural thing — it's all about making sure you get the customer what they need. There is a much higher customer-service philosophy at ES&S."



Enhancing Elections in WILSON COUNTY

Upgrading voting technology can be a daunting task. The varied needs of election officials make it necessary for systems to multitask, now and in the future. For Wilson County, Tennessee, the ExpressVote and DS200 provided a viable, secure and flexible solution for this year's election cycle and beyond.

With a reputation for some of the best-run elections in Tennessee, the Wilson County Election Commission took the job of finding new voting technology quite seriously. An Election Systems & Software (ES&S) customer since 2006, their iVotronics were aging and a viable replacement would soon be needed. Realizing customer needs had changed, ES&S worked diligently to get the [ExpressVote](#)® Universal Voting System certified in the State of Tennessee, providing Wilson County with an enhanced voting solution. After extensive testing along with the [DS200](#)® precinct scanner, Wilson decided to extend their partnership with ES&S and purchase visionary voting solutions. During their August 4 Primary, which marked their first use of the ExpressVote and DS200, both poll workers and voters experienced a simplified Election Day while enjoying the extra security of verifiable paper records and streamlined polling place procedures.

CHALLENGES

- **Quick implementation.** Wilson County faced a quick turnaround period for implementation. Within eight weeks, poll workers were trained and equipment was delivered, tested and deployed for the August Primary.
- **No major adjustments for voters.** Wilson County wanted to ensure voters were able to exercise their right to vote without added complication or confusion during the Primary.
- **New Election Day/Night procedures.** New processes for opening and closing the polls were necessary and poll workers needed to be trained to enable the new voting solutions to work seamlessly on Election Day.

SOLUTIONS

- **Familiar interface + added security.** Wilson County voters were already familiar with touch screen voting. Their printed vote records allowed them a last minute review before casting their vote.
- **Streamlined poll place opening/closing.** The easy set-up requirements for both the ExpressVote and DS200 empowered many poll workers. Poll places were opened and ready for voters in less time without requiring troubleshooting calls to Election Central. Poll workers also enjoyed simple closing procedures and a single memory stick to keep track of.
- **Ease on Election Night.** Unofficial results were reported faster as less memory sticks were needed for uploads (one per precinct). Absentee and provisional ballot processing was also streamlined.
- **Platform for the future.** Phillip Warren, Administrator of Elections, remarked "We try to improve on the processes already in place. We try to be proactive and think ahead — everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote."
- **Setting the standard.** With their successful implementation during the August Primary, Wilson County hopes other jurisdictions take the step forward to enhance their elections with new technology.



Selecting a new system

During evaluation, Wilson County conducted 17 large school elections comparing the performance of the ExpressVote and DS200 configuration with the iVotronics. At one of the school elections in particular, 1700 votes were cast in less than 2 hours! Due diligence was important as the Elections Commission wanted to ensure they were wisely spending taxpayer funds on the best system available for Wilson County voter needs.

Ultimately, Wilson selected the ExpressVote and DS200. Finding the overall system attractive, Phillip and Tammy noted benefits such as:

- User friendliness
- Paper records adding clear voter intent
- Ease of mind having a paper back-up
- Attractive system from an administrative standpoint
- Flexibility for future needs

The County wanted to ensure voters and poll workers would quickly be able to utilize the new system during their August Primary. The familiar interface made this possible as voters were used to the look and feel of going up to a touch screen and inserting a card (think a trip to the ATM). Wilson simply swapped a debit card with an Activation Card.

Wilson County also appreciated the human component of ES&S. During the development of the ExpressVote, ES&S conducted focus groups that Wilson participated in where actual suggestions and needs that counties brought up were incorporated.

“What I liked about ES&S is that they listened. They took a lot of our ideas that we had in the small group and they implemented them and came back with a new product” Tammy Smith, Assistant Administrator, commented. “During a visit after that, we told them we were looking for products and couldn’t find them. The next time we saw them, they brought us a catalog!”

“Everything we offer is meant to meet a lot of needs or alleviate voter concerns because we want to preserve the integrity of the vote.”

- Phillip Warren, Administrator of Elections

Changes for poll workers

Technology has been integrated with all systems, causing a shift in the demographics for poll workers. Outside of their partnerships with local high schools who provide student poll workers, many of the older poll workers are technologically savvy ones. Wilson County requires potential poll workers to go online and fill out their application, the first step towards showing tech literacy. With new skill sets required, it has opened the field to a wider and more capable pool of poll workers and decreased many of the minor tech support issues counties can face when workers aren’t familiar with updated systems. The county believes more people will now want to serve as poll workers thanks to the lighter equipment and easy opening and closing procedures.



In light of this, Wilson County makes sure that updated technology isn’t a barrier for those looking to serve yet not matching the required skill set level. “We try to configure our poll place system in a way that if they aren’t good with computers we can find a place for them if possible on Election Day” Tammy added.

For poll workers, the change was a welcome one that did not require major adjustment. As the system is intuitive, most found it easy to learn and had no worries on Election Day. Of the poll workers interviewed during the Primary, many echoed the county’s comparison of the system to a grocery store self check-out. “Tammy & Phillip do a good job. Every year our elections get tighter, from training to Election Day. It’s so organized people can almost go through the process on autopilot.”

One, who indicated she had a computer background, complimented the start to finish technology integrations. “Going from a more manual process of selecting ballot styles for people, this is much preferred. There’s no real error, you just print their barcode and they follow the instructions on screen from there.”

Signs directing voters through the voting process resemble stations you'd see at a back to school night. From the cheerful face who hands you your Activation Card with barcode, indicating your correct ballot style, to the gentlemen handing the mom and daughter an "I Voted" sticker after depositing their vote record into the DS200, Election Day in Wilson County is a stress-free affair.

"Nothing in the constitution says this has to be complicated" added Warren. "This system proves that because it's simple and it works."

Leading the charge

When asked one of the biggest take-aways from the implementation of their new system, Smith remarked "One thing I wish election offices were more open to is technology and change. We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

Upgraded technology means less time training poll workers and troubleshooting during an election. Many counties are tasked with doing innovative things with less money than they had 10 years ago, while also improving the experience for all who participate. Embracing technology, preparing for the future and planning for today can pay off in spades once implemented.

"We believe if you expect a lot out of your poll workers they can do it. Sometimes we don't challenge them enough."

- Tammy Smith, Assistant Administrator

"We've been able to save weeks on the backend in closing out the election and auditing, while realizing thousands of dollars in cost savings from salaries."

Additionally, the technology benefits of the system extend for many past Election Day. "In the beginning, some poll workers didn't even know the computer basics or use it in their everyday life (no cell phones). Now a lot of them have their own tablet devices, all because they were introduced to more technology while serving as a poll worker" said Smith.

To learn more about our visionary voting suite which includes the ExpressVote and DS200 contact your ES&S representative or visit our [website](#).



Results

- 1 Smoother canvass and hand count
- 2 Reduced number of morning follow up calls
- 3 Success means that results are ready 2-3 hours sooner



Susan Thomas, Harrison County Clerk



“All you have to do is touch your selections, check your printed ballot and put it into the tabulator.”

“**Georgianna Thompson,**
Taylor County Clerk

“Commissioners were not excited about spending the money. I was fully prepared to continue maintaining the old equipment. The ExpressVote convinced them that it will pay dividends in the future.”

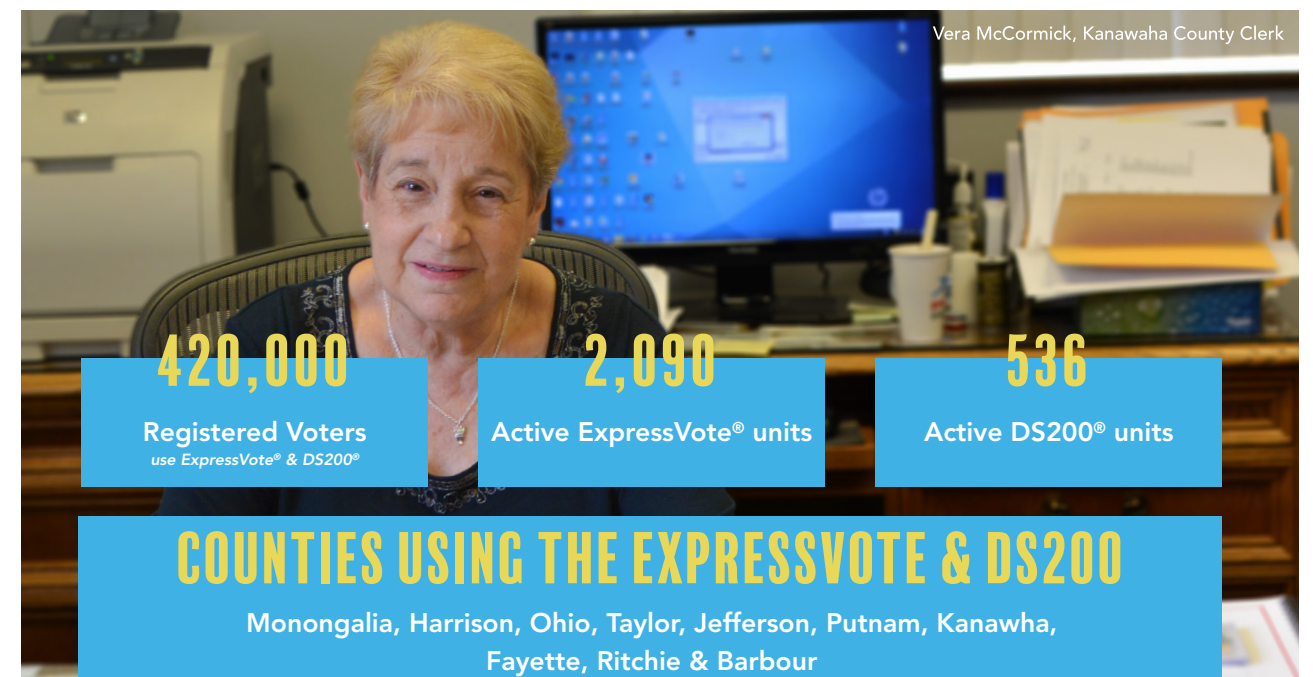
“**Brian Wood,**
Putnam County Clerk

SEE FOR YOURSELF!
Call to request a demo!

HOW WEST VIRGINIA'S Election Officials Are Reducing Costs

While Improving the Election Experience for Voters & Poll Workers

Many voters across the U.S. are casting their ballots on a generation of aging, decade-plus old optical scan and direct-recording electronic (DRE) voting machines. Election officials nationwide rushed to embrace new voting technology after Congress passed the Help America Vote Act (HAVA) in 2002, which addressed the way ballots were designed, cast and counted, and led to an overhaul of the U.S. election system and eventually the birth of the DRE and optical scan machines. **Ten plus years later another major overhaul of the U.S. election system is underway, and a number of states are seriously considering a return to paper-based voting systems.**



Vera McCormick, Kanawha County Clerk

*stats are current as of October 2017

As with many states in the early 2000s, West Virginia faced various challenges related to becoming compliant with HAVA. At the close of the 2005 West Virginia Legislative regular session, during which a voter-verified paper trail bill was signed into law, Secretary of State Betty Ireland began her search for a pioneering elections partner that could help West Virginia do three things: 1) meet the requirements of HAVA, 2) reduce the financial burden of becoming compliant off the counties as much as possible, and 3) offer counties quality voting system options.

In August 2005, ES&S was awarded the statewide contract to provide all of West Virginia’s counties with voting systems and election services. And in 2006, just over half of West Virginia’s 55 counties, whose County Clerks manage elections at the local level, purchased DRE systems while the remaining chose to purchase optical scan voting systems paired with central scanners, creating a dual system environment across the state.

Why the change?

Fast forward ten more years, similar to many states across the U.S., while their existing voting systems were withstanding the test of time, West Virginia’s jurisdictions began the process to find a more modern system that offered a paper-verifiable record.



Brian Wood, Putnam County Clerk

“Our equipment was aging. Having partnered with ES&S for ten plus years, we knew they were always developing solutions that made our lives easier and were more efficient, dependable and cost-effective.”


“The ExpressVote® was the best of both worlds with the electronic aspect, including improved visibility and ADA compliance, along with the paper verification where the voter can hold their selections in their hands, confirm everything is accurate, and then place it in the DS200® ballot slot.”


They were also ready to put away the challenges associated with their aging equipment and find a solution that simplified election management and improved voters’ experience at the polls. Much like the avid flip-phone users, whose carriers still supported their phones, and whose flip-phones still made calls — they ultimately realized how much easier and more efficient their life could be if they had a smartphone.

“So much less to worry about and less upkeep. We no longer have to deal with all of the different consumables,” said Susan Thomas, Harrison County Clerk. “You plug them in, flip a switch, lift a screen and both are powered up within five minutes. Plus, with ExpressVote and DS200 everything is a lot simpler for us on the backend.”

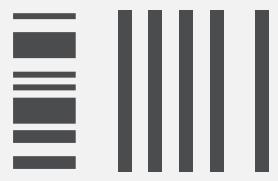
It was important to them that their new equipment made the backend of their elections easier for not only themselves and their teams, but the poll workers as well. Equipment that wasn’t hard to haul around, was easier to program and would ease the burden of having to hand count write-in and canvass ballots.

“The ballots marked on the ExpressVote require less storage due to their size, and the leftover blank cardstock can be reused in other elections. We can do satellite voting now, and don’t have to carry all of those preprinted ballots with us.”





Vera McCormick,
Kanawha County Clerk



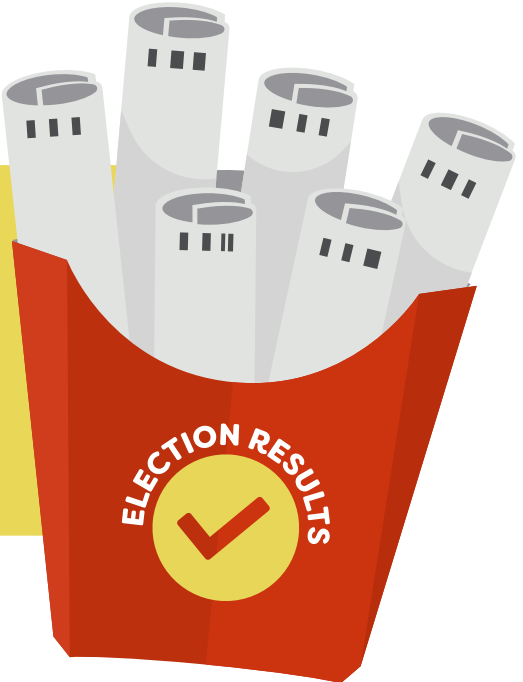
“Canvass and hand count went very smoothly; the ballot was easy to read and easy to determine the voter’s intent. NO OVERVOTES!”

The clerks wanted a truly usable summary report of the final results, a more robust in-depth audit report. They wanted to deliver their county’s election results before 3 a.m. so the candidates and the people who had worked so hard supporting them could either get their parties started or start picking up campaign signs.

“We live in a fast food world, and people want their results right away”

“The candidates and their supporters have worked for a long time to get there, so they are very anxious to get the results. So is the media ... it’s nice to give them what they need, and get them back to work by 10 p.m. instead of 3 a.m.”

Brian Wood, Putnam County Clerk



Most importantly, they wanted every one of their voters to have a consistent, simple and secure election experience. This included having only one system to vote on, that was easy to use and that included a verifiable paper record that allowed them to confirm that the selections they marked were what they intended.

“We demo’ed the equipment in several different locations with seniors, many of which who were in their 90s. We didn’t really have to explain much to them as far as how to use it, and everyone liked it,” said McCormick. “They liked having a piece of paper in their hand that they could hold, so there was no guessing.”

5 BALLOT MARKING DEVICE (BMD)

5-5 BMD ENVIRONMENT

5.5 Describe the impact of environmental factors on ballot printing related to BMDs. Describe if the printed surface of the paper ballot produced by a BMD is subject to smearing, erasure, or other intentional or accidental environmental factors such as water, oils from human skin, or other elemental substances one might find in an election office, warehouse, or polling location.

ES&S RESPONSE

The ExpressVote is extremely cost-effective because it requires no toner or ink cartridges. Instead, it uses inexpensive blank card stock for printing vote choices on an on-demand basis. The ExpressVote generates vote records on 4.25-inch x 11-, 14-, 17-, and 19-inch thermal card stock/ballot. The thermal card stock/ballot uses thermal heat-sensitive paper with 134 Microns +/- 6 Microns (0.005275" +/- 0.00236") thickness. Unused cards can be used in future elections.

The ExpressVote printed vote summary cards are not subject to smearing or erasure, oils from human skin, or other elemental substances encountered in the course of a normal election.

The environmental impact of using the ExpressVote model of voting has significant advantages over that of the standard hand-marked, mark-sense ballots.

- ✔ Significantly less paper used – cards are issued and marked on-demand, meaning they need not be pre-printed. Unused cards can be used in a future election and not discarded as is done with pre-printed cards. Also, a single vote summary card can be used where 1 or more ballots are typically, reducing the paper used for each voter by a minimum of 50%. Less paper used means less storage space and less to throw away after the required retention period.
- ✔ No consumables to replace and discard – printing the summary cards requires no toner or ink cartridges, so there are no unused consumables to throw away. This means less plastics, chemicals, and packaging into landfills.

5 BALLOT MARKING DEVICE (BMD)

5-6 BMD ADA

5.6 Describe how the proposed BMD will support ADA accessibility.

ES&S RESPONSE

The ExpressVote allows voters to cast their votes unassisted, thereby maintaining their privacy and anonymity. Every ExpressVote is fully accessible, allowing any voter to select any ExpressVote without the need to declare a disability or be relegated to certain devices.

Most voters, even those with visual impairments or who are blind, can use the corner cut tactile indicator to properly orient the card and insert the cards into the machine. Braille on the face of the ExpressVote indicates where to insert the activation card.



Braille on ExpressVote Face Instructs Voter

Each ExpressVote includes the following functionality:

- ✔ Touch screen with colors and accessibility-enhancing effects, including voter-selected font size and contrast settings
- ✔ Interconnected navigational keypad buttons with both Braille and printed text labels designed to indicate function and a related shape to help the voter determine its use
- ✔ Port for a sip-and-puff device, foot pedal, or other two-way switch

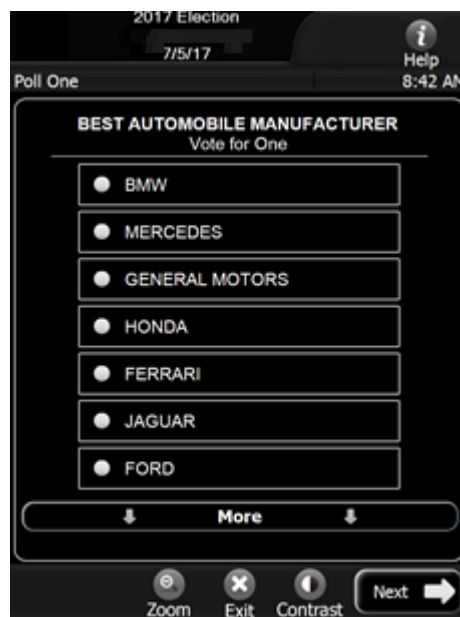


Keypad with Shaped Buttons and Braille

- ✓ Audio voting session via text-to-speech or .wav files. Voters can privately listen to instructions and selections at a volume, tone, and speed that will meet their unique needs.
- ✓ High-visibility on-screen ballots with options for Zoom and Contrast



Sip & Puff



High-Contrast Zoomed-In Text Option

The ExpressVote uses electronic technology based on input from election officials and disability organizations. It integrates components such as a digital scanner, printer, touch screen, and a navigational audio-tactile keypad.

Key features of the ExpressVote include:

- ✓ Multiple ballot navigation and selection methods that can be used simultaneously at any time during the voting process.
- ✓ Audio presentation created by either real voice files or through the voice file generator in Electionware Toolbox. Voters privately listen to instructions and selections at their chosen volume and speed. The automated languages are easy to understand for audio-ballot users who tend to significantly increase their speed.
- ✓ Ballot and voter instruction/message presentation in the language selected by the voter both in audio and visual formats. Voting choices and instructions can be displayed in large text on a high contrast background on the touch screen display, as well as played by the audio system in the voter's preferred language.
- ✓ Allows voter to select a black privacy screen during an audio presentation.



Paddle

- ✔ Tempo and volume controls for adjusting audio ballot presentation.
- ✔ Pause/resume audio capabilities

Following is a quote from the website “Blind Bargains” after the author tested accessible voting devices from Hart Intercivic, Dominion Voting Systems, and Election Systems & Software included in [section 5-4](#).

“With my faith in modern voting technology quickly running out, I moved to the last of the machines, The ExpressVote from Election Systems & Software...I walked up to the machine and inserted my paper ballot into the reader, which immediately caused speech feedback to begin. No intervention was necessary from the election workers.... Overall, I completed my 23-question ballot in about 5 minutes. Of the three systems tested, the ExpressVote is the only one I am comfortable recommending in its current form. Set-up was achieved independently by the voter, prompts were spoken efficiently, and a ballot could be completed using the fewest number of key presses.”

6 EPOLL DATA MANAGEMENT SYSTEM (EPDMS)

6-1 EPDMS

6.1 Complete the attached form titled "EPoll Data Management System" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment M – EPoll Data Management System**.

Vendor: Election Systems & Software, LLC **Attachment M - EPoll Data Management System**

<p>EPoll Data Management System (EPDMS) – Used to combine voter registration and election ballot data into an election-specific elector’s list that powers the electronic poll book (EPoll) and provides each voter with the properly assigned ballot style.</p> <p>Describe all answers regarding your EPDMS solution. The EPDMS solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>
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Capabilities		
<p>a. Accept imports of voter registration data from eNet on removable memory devices for the purposes of building an elector’s list for any given election. The data transferred from eNet includes but is not limited to:</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>Voter registration data exports can be transferred from eNet to Pollware, the electronic pollbook configuration and conversion software, via removable memory device. All data included in the list below is able to be transferred from eNet into Pollware to build the elector’s list for any given election.</p>
<ul style="list-style-type: none"> Voter Name (First, Middle, Last, Suffix) 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Voter Name (First, Middle, Last, Suffix).</p>
<ul style="list-style-type: none"> Voter Street Address 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Voter Street Address.</p>
<ul style="list-style-type: none"> Voter City, State, Zip 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Voter City, State, Zip.</p>
<ul style="list-style-type: none"> Driver License number 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Driver License number.</p>
<ul style="list-style-type: none"> Voter Registration ID 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Voter Registration ID.</p>
<ul style="list-style-type: none"> Voter Status 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Voter Status.</p>
<ul style="list-style-type: none"> Assigned Precinct 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Assigned Precinct.</p>
<ul style="list-style-type: none"> Assigned District Combination Value 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Assigned District Combination Value.</p>
<ul style="list-style-type: none"> Assigned Polling Place 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Assigned Polling Place.</p>
<ul style="list-style-type: none"> Polling Place Street Address 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Polling Place Street Address.</p>
<ul style="list-style-type: none"> Polling Place City, State, Zip 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Polling Place City, State, Zip.</p>
<ul style="list-style-type: none"> Absentee Status 	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The ExpressPoll system accepts imports of Absentee Status.</p>
<p>b. Accept imports of election ballot data from the proposed EMS on removable memory devices for the purposes of building an elector’s list for any given election. The data transferred from the</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>Pollware is able to accept imports of election ballot data on removable memory devices to ensure the correct ballot assignment is provided to each voter from the electronic pollbook. All data included in the list below is able to be transferred from the EMS for use by the electronic pollbook.</p>

Vendor: Election Systems & Software, LLC **Attachment M - EPoll Data Management System**

<p>EPoll Data Management System (EPDMS) – Used to combine voter registration and election ballot data into an election-specific elector’s list that powers the electronic poll book (EPoll) and provides each voter with the properly assigned ballot style.</p> <p>Describe all answers regarding your EPDMS solution. The EPDMS solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>
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proposed EMS is expected to include, but is not limited to:		
• Precincts	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system accepts imports of Precincts.
• Polling Places	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system accepts imports of Polling Places.
• District Combination Values	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system accepts imports of District Combination Values.
• Ballot Styles	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system accepts imports of Ballot Styles.
c. Generate reports that provide user guidance in the preparation of the elector’s list.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Multiple reporting options are available from the Pollware software throughout the election process. Configuration reports are available to confirm selected options, as well as reports to validate imported voter registration data to guide the user throughout the process of preparing pollbook data.
d. Generate and encrypt elector list data and update files that can be extracted using removable memory devices and transferred to the EPoll solution. Describe how encrypted files are transferred to and from EPoll solution.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All elector data is encrypted to meet AES-256 encryption standards. This standard reflects one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.
e. Collect activity or transaction logs generated by EPoll at the conclusion of the election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Post-election, encrypted transaction logs are extracted from the electronic pollbooks via removable memory devices.
f. Use collected activity or transaction logs from EPoll to generate Numbered Lists of Voters in a format that can be securely transmitted to a jurisdiction and then printed locally.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Encrypted transaction logs extracted from the electronic pollbooks are imported into the Pollware software to generate customizable reports and voted lists, which can be printed or transmitted as required.
g. Use collected activity or transaction logs from EPoll to provide an update of voter history back to eNet.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Transaction logs extracted from the electronic pollbooks are imported into the Pollware software to generate voter history exports used to update voter history back to eNet.

Vendor: Election Systems & Software, LLC **Attachment M - EPoll Data Management System**

<p>EPoll Data Management System (EPDMS) – Used to combine voter registration and election ballot data into an election-specific elector’s list that powers the electronic poll book (EPoll) and provides each voter with the properly assigned ballot style.</p> <p>Describe all answers regarding your EPDMS solution. The EPDMS solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>
<p>h. Describe the expected amount of time needed to complete a single dataset containing all voters and all ballot styles (7.1 million voters, with 159 election databases, with 3300 precincts).</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The EPDMS conversion process may take up to three (3) hours to generate the dataset containing all voters and all ballot styles.</p>
<p>i. Be virtualized to run on GASOS and county virtual operating system (OS) environments.</p>	<p>YES <input checked="" type="checkbox"/> NO <input type="checkbox"/></p>	<p>The EPDMS can run within a virtualized environment. The operating system requirements for the EPDMS environment dictate Windows 10 Professional or Windows 10 Enterprise. There is no specific hardware requirement. The faster the underlying hardware, the faster the application will run and process data. The following are the minimum recommendations:</p> <p>Windows 10 Professional/Enterprise 2+ GHz quad-core Intel CPU 80 GB hard drive space 8 GB RAM 1280x1024 display resolution</p>

<p>EPoll Data Management System (EPDMS) – Used to combine voter registration and election ballot data into an election-specific elector’s list that powers the electronic poll book (EPoll) and provides each voter with the properly assigned ballot style.</p> <p>Describe all answers regarding your EPDMS solution. The EPDMS solution shall:</p>	<p>CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED</p>	<p>KEY FUNCTIONALITY AND SYSTEM CAPABILITY</p>
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Narrative:

NARRATIVE

Pollware is our fully integrated poll data management software solution that allows for secure and streamlined conversion of voter registration data into electronic pollbook data files. Jurisdictions – either at the State or County level - will be able to use Pollware software to convert voter registration data into electronic pollbook files, customize the workflow based on voter status, determine how ballots are issued from the pollbook, assign and track equipment and data by poll location, and generate post-election reports and voter history exports for the Voter Registration system.

POLLWARE: KEY FEATURES & BENEFITS

- ✔ **Data Control.** Using the Pollware software, users can accurately and securely convert their voter registration data into electronic poll data files for use on the ExpressPoll units. Workflow options and pollbook configurations can easily be modified from election to election, allowing users to customize the ExpressPoll experience to meet their specific election and jurisdictional requirements.
- ✔ **Equipment oversight.** Pollware allows users to assign ExpressPoll tablets to a specific location based on the serial number, ensuring complete control and security of your equipment and voter data.

6 EPOLL DATA MANAGEMENT SYSTEM (EPDMS)

6-2 EPDMS MEDIA

6.2 Describe how election configuration information is loaded. Is it done via encrypted, removable memory devices created by the EPDMS or through direct a connection to EPDMS through a LAN?

ES&S RESPONSE

Using Pollware, our fully-integrated poll data management software solution, users are able to accurately and securely convert their voter registration data into electronic poll data files for use on the ExpressPoll units. Workflow options and pollbook configurations can easily be modified from election to election, allowing users to customize the ExpressPoll experience to meet their specific election and jurisdictional requirements. Jurisdictions – either at the State or County level - will be able to use Pollware software to convert voter registration data into electronic pollbook files, customize the workflow based on voter status, determine how ballots are issued from the pollbook, assign and track equipment and data by poll location, and generate post-election reports and voter history exports for the Voter Registration system.

Pollware is able to accept imports of election ballot data on removable memory devices to ensure the correct ballot assignment is provided to each voter from the electronic pollbook. All elector data is encrypted to meet AES-256 encryption standards. This standard reflects one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.

6 EPOLL DATA MANAGEMENT SYSTEM (EPDMS)

6-3 EPDMS VALIDATION

6.3 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

Pollware software, used to configure and convert voter data files for use on the electronic pollbooks, is installed on a secure, closed system. A user name and password are required to access the system, preventing unauthorized users from accessing the data. Pollware also allows users to generate unique passwords to encrypt/decrypt poll data files used on the electronic pollbooks, as well as to access sensitive functions on the pollbook, such as updating voter information or cancelling an issued ballot.

All voter data is protected by strong encryption in transit and at rest on the tablet and requires the correct entry of the Pollbook Qualification Code (PQC) to decrypt and access the poll data files generated from Pollware. If the PQC is incorrect, the system prevents access to the voter data.

6 EPOLL DATA MANAGEMENT SYSTEM (EPDMS)

6-4 EPDMS EASE OF USE

6.4 Ease of Use for the State and Election Official: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

As with our ExpressPoll pollbook solution, our Pollware software was designed with an intuitive interface that allows users to accurately and securely convert voter registration files into poll data files used on the ExpressPoll. Users are able to customize their pollbook workflow based on voter status, absentee status, or election type to meet the specific needs of each jurisdiction. Post-election, Pollware quickly converts pollbook transaction logs into reports and voter history files used by the Voter Registration system. As with the ExpressPoll application, the State of Georgia's Pollware application will be crafted to follow current workflow and state-specific needs.

7 ELECTRONIC POLL BOOK (EPOLL)

7-1 EPOLL

7.1 Complete the attached form titled "Electronic Poll Book" and include narrative.

ES&S RESPONSE

Please see the completed **Attachment N – Electronic Poll Book**.

Attachment N - Electronic Poll Book

Electronic Poll Book (EPoll) Describe all answers regarding your EPoll solution. The proposed EPoll solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
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Capabilities

a. Provide ability of user to conduct pre-election testing on all functions of the EPoll with the outputs of the testing stored internally by the EPoll or to the encrypted, removable memory device loaded to the device.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll provides the ability for county election staff to conduct pre-election testing on all functions of the device with outputs of the testing stored internally and to its encrypted, removable memory device.	ExpressPoll electronic pollbook system Sale
b. Utilize a touchscreen interface to securely access the functionality of the device as required for pre-election setup and testing, election operational use, and post-election use.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll utilizes the Microsoft Surface Go tablet, which features a 10” touchscreen to easily allow users to access the functionality of the device.	ExpressPoll electronic pollbook system Sale
c. Has secure access to internal memory and removable memory components.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	<p>The ExpressPoll system utilizes the Surface Go tablet’s internal memory to securely store encrypted transaction logs and data for the pollbook. Additionally, a 32GB micro-SD card can be inserted into the tablet and covered with a security seal to redundantly store encrypted transaction logs and data files.</p> <p>When a poll worker logs into the ExpressPoll system, the system is in the “kiosk mode” which means the poll worker(s) do not have access to other areas of the tablet. Only the ExpressPoll voter validation software application can be accessed by the poll worker.</p> <p>Sensitive ExpressPoll functions,</p>	ExpressPoll electronic pollbook system Sale

		such as the ability to backup transactions or load new election data require entry of a jurisdiction-defined password. Additional ExpressPoll functions can be configured to require the input of a password as required by the jurisdiction.	
d. Read and display encrypted data generated by the proposed EPDMS.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Pollware software is used to securely configure and convert voter registration data into encrypted files used by the ExpressPoll pollbooks. All elector data is encrypted to meet AES-256 encryption standards, one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.	ExpressPoll electronic pollbook system Sale
e. Support polling place, precinct, countywide, and statewide voter lists and voter searches.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system can store voter registration data for a precinct, a group of precincts, a county, or an entire state. In many statewide jurisdictions, the entire state voter registration database is stored on every ExpressPoll unit. The ExpressPoll enables voter searches by precinct, county, or state.	ExpressPoll electronic pollbook system Sale
f. Allow users to search for voter using various inputs; expected but not limited to:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system includes a method to look up voters by any combination of (but not limited to) the criteria listed.	ExpressPoll electronic pollbook system Sale
• Name (Last, First, Middle, Suffix)	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	With the ExpressPoll, voter look-up can be performed by entering the voter's first and last name.	ExpressPoll electronic pollbook system Sale
• Date of Birth	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	With the ExpressPoll, voter look-up can be performed by entering the voter's birth date.	ExpressPoll electronic pollbook system Sale
• Voter Registration ID Number	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	With the ExpressPoll, voter look-	ExpressPoll electronic pollbook system

		up can be performed by entering the voter's assigned Voter Registration ID number.	Sale
• Driver's License Number	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	With the ExpressPoll, voter look-up can be performed by entering the voter's name, and optionally the voter's Georgia driver's license number.	ExpressPoll electronic pollbook system Sale
g. Display the polling place address for any polling location in use for a given election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	If a voter visits an incorrect polling location, the poll worker can expand the voter search to a county- or state-wide search by simply touching the Search Entire Jurisdiction icon on the screen. If the voter's name appears on the screen, the poll worker can touch the voter's name and then touch Poll Details to display the address and a map of the voter's correct voting location. The address information can be printed for the voter.	ExpressPoll electronic pollbook system Sale
h. Allow multiple EPolls assigned to the same polling place to be networked to one another.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Multiple ExpressPoll units assigned to the same polling place can be networked to one another via a Local Area Network (LAN) connection.	ExpressPoll electronic pollbook system Sale
i. Be secure from unauthorized access.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system can be set up to require entry of a consolidation/precinct name, a user name or names from two different poll workers, and a jurisdiction-defined password from one or two users in order to activate the software and load the election data. Sensitive ExpressPoll functions, such as the ability to cancel an issued ballot, require entry of a jurisdiction-defined supervisor password. Additional ExpressPoll functions can be configured to require a supervisor password.	ExpressPoll electronic pollbook system Sale

		<p>The software maintains a complete transaction audit log with tables containing a record of all ballots issued and other significant activity that can be printed or exported. The audit log is stored in the tablet's internal memory, and a backup copy of the audit log is stored on a micro-SD Card.</p> <p>To prevent tampering, a security seal can be attached to the ExpressPoll's case and placed over the microSD card slot on the tablet.</p> <p>All elector data is encrypted to meet AES-256 encryption standards, one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.</p>	
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Attachment N - Electronic Poll Book

Electronic Poll Book (EPoll) Describe all answers regarding your EPoll solution. The proposed EPoll solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
j. Display up-to-date Numbered List of Voters for the polling place to which the EPoll is assigned.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll can produce a voter list that displays the list of voters who are assigned to the specific voting location, and the voter status of each voter.	ExpressPoll electronic pollbook system Sale
k. Display current polling place information; expected but not limited to:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system displays polling place information related to the criteria listed below.	ExpressPoll electronic pollbook system Sale
i. Number of Voters	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll displays the number of voters.	ExpressPoll electronic pollbook system Sale
ii. Number of Voters Issued Ballots	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll displays the number of voters issued ballots.	ExpressPoll electronic pollbook system Sale
iii. Current Date/Time	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll displays the current date/time.	ExpressPoll electronic pollbook system Sale
iv. Poll Status	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll displays the poll status.	ExpressPoll electronic pollbook system Sale
v. Connection Status with other EPolls	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll displays the connection status with other EPolls.	ExpressPoll electronic pollbook system Sale
l. Enable media that directs the proposed BMD to display the selected voter's proper ballot style for the given election.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressVote Activation Card printer receives information from the ExpressPoll tablet to print a barcode with the correct ballot style for a voter onto the ExpressVote activation card/ballot. Once inserted into the ExpressVote, the correct ballot style is presented on screen.	ExpressPoll electronic pollbook system Sale
m. Display the ballot style of the selected voter to the poll worker.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	Once a voter's record is found, the correct ballot style for the voter (determined by the data received	ExpressPoll electronic pollbook system Sale

		from the voter registration system and EMS) is clearly displayed in the voter's validation information.	
n. Maintain an audit log of each activity occurring on the EPoll that includes at least the following:	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll audit log includes the below information.	ExpressPoll electronic pollbook system Sale
i. Date/time of the event	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system logs the date/time of the event.	ExpressPoll electronic pollbook system Sale
ii. Description of event	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system logs a description of the event.	ExpressPoll electronic pollbook system Sale
iii. Timestamps	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system logs timestamps of events.	ExpressPoll electronic pollbook system Sale
iv. Device serial number	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system logs the device serial number.	ExpressPoll electronic pollbook system Sale
o. Allow for use of barcode scanning to search elector's list (i.e., Georgia Driver's License Barcode).	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll can be used to perform voter lookup by scanning the barcode on a voter ID card or a Georgia Driver's License. Using the barcode reader integrated in the ExpressPoll stand, scanning is simple and fast, and eliminates data-entry errors. From the Voter Search page, users simply scan the 1D or 2D barcode on a driver's license or voter ID card to automatically search for the voter's record and display matching results.	ExpressPoll electronic pollbook system Sale
p. Have activity records from EPoll extractable via encrypted, removable memory devices.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll audit log is stored on the tablet's internal memory, with a backup copy stored on a removable micro-SD card. All elector data is encrypted to meet AES-256 encryption standards, one of the highest encryption levels available.	ExpressPoll electronic pollbook system Sale
q. Be capable of retrieving activity records saved to the device's internal memory for the specific election, if the encrypted, removable media device becomes	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	All transactions are saved to the internal memory of the Surface Go tablet, with a backup copy stored on a removable micro-SD card. If	ExpressPoll electronic pollbook system Sale

damaged, lost, or unreadable.		the removable memory device fails, transactions can be extracted from the internal memory of the Surface Go tablet.	
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State of Georgia

Statewide Voting System
eRFP: 47800-SOS0000037

Secretary of State
pg. 2

Attachment N - Electronic Poll Book

Electronic Poll Book (EPoll) Describe all answers regarding your EPoll solution. The proposed EPoll solution shall:	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
r. Operate on standard 110/120V AC power.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll tablet operates on standard 110/120V AC power.	ExpressPoll electronic pollbook system Sale
s. Contain an internal backup power supply that, in the event of a power failure, permits the device to continue normal operation for a minimum of two (2) continuous hours.	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	The ExpressPoll system features a Surface Go tablet, which includes an internal battery that provides up to four (4) hours of battery backup to the tablet and stand.	ExpressPoll electronic pollbook system Sale

Electronic Poll Book (EPoll)	CONFIRM THAT CAPABILITY EXISTS AND IS ABLE TO BE DEMONSTRATED	KEY FUNCTIONALITY AND SYSTEM CAPABILITY	PROPOSED PRODUCT(S) AND METHOD OF CONTRACTING (license, sale, lease, subscription, etc.?) (DO NOT INCLUDE COST)
Describe all answers regarding your EPoll solution. The proposed EPoll solution shall:			

Narrative:

NARRATIVE

ES&S is excited to present the ExpressPoll electronic pollbook. The ExpressPoll gives poll workers a simple-to-operate device that reduces check-in and verification waiting time for voter, increases the accuracy of voters' personal information and improves the Election Day experience for all.

EXPRESSPOLL: KEY FEATURES & BENEFITS

- ✔ **Easy Election Day Setup.** The ExpressPoll stand was developed to make Election Day setup quick and easy. Our fully integrated stand can be set up in seconds—simply remove the stand from the case and connect to a power supply. The 10-inch touch-screen tablet, barcode reader, external USB ports and power supply are fully integrated, eliminating the need to assemble or connect any components to open the polls. The Surface Go tablet also includes an internal battery, which provides up to 4 hours of battery backup to the tablet and the stand.
- ✔ **Tablet data loading.** Provides for a one-step secure tablet data loading process for all ballot styles and screen information. Users can load precinct, county or statewide voter lists to each tablet in a matter of seconds.
- ✔ **Detailed audit trail.** The ExpressPoll system maintains a complete transaction audit log with a record of all ballots issued including information about the pollbook user who completed each task, providing enhanced security and poll worker accountability.
- ✔ **Automated, accurate ballot style delivery.** The ExpressPoll electronic pollbook interfaces directly with the ExpressVote. When used with the ExpressVote Activation Card printer, the ExpressPoll automatically prints the correct ballot style barcode for each voter on the ExpressVote card/paper ballot. This patented, automated process virtually eliminates the risk of a poll worker providing an incorrect ballot style to a voter. Printing each voter's correct ballot style bar code directly onto the card/paper ballot, which the voter inserts into the ExpressVote unit, also eliminates the need for the use of a separate piece of paper containing each voter's ballot style barcode.
- ✔ **Stable operating system.** Utilizing the Windows 10 operating system means your electronic pollbooks will remain up-to-date and secure for years to come. Microsoft has provided a product roadmap committing to all customers that the Windows 10 operating system will be supported with security updates through at least October 2026.

7 ELECTRONIC POLL BOOK (EPOLL)

7-2 EPOLL MEDIA

7.2 Describe how election configuration information is loaded. Is it done via encrypted, removable memory devices created by the EPDMS or through direct a connection to EPDMS through a LAN?

ES&S RESPONSE

Poll data files, including voter and configuration information, are transferred from Pollware to the ExpressPoll devices via removable USB devices. All elector data is encrypted to meet AES-256 encryption standards. This standard reflects one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports.

7 ELECTRONIC POLL BOOK (EPOLL)

7-3 EPOLL VALIDATION

7.3 Describe any software/firmware validation tools built into the device for use in installation, pre-election, and post-election testing to verify that software/firmware has not been modified.

ES&S RESPONSE

During Logic and Accuracy testing, users are allowed to assign specific devices to a specific polling location using the pollbook's unique Device Name. This ensures that the correct pollbook and poll data set is deployed to each location, preventing unauthorized or incorrect access of voter data from the electronic pollbooks. Additionally, all data is encrypted at AES 384 in transfer and at rest on the application and requires the correct entry of the Pollbook Qualification Code (PQC) to decrypt and access the poll data files generated from Pollware. If the PQC is incorrect, the system prevents access to the voter data.

As is the case today, testing is conducted on each ExpressPoll software process for negative outcomes and for system level integration in order to validate data across the multiple systems. Testing procedures (both Acceptance and Logic and Accuracy), can be customized specifically for the State of Georgia during the implementation process to help ensure data integrity.

7 ELECTRONIC POLL BOOK (EPOLL)

7-4 EPOLL EASE OF USE

7.4 Ease of Use for the Election Official: Provide and demonstrate customer experiences via referrals and specific case studies or white papers including access, special features, and any other customer feedback.

ES&S RESPONSE

The ExpressPoll electronic pollbook was developed to make Election Day setup quick and easy--in fact, setup takes mere seconds. Simply remove the ExpressPoll stand from the carrying case and push the power button. The 10-inch touch-screen tablet, barcode reader, external USB ports and power supply are fully integrated, eliminating the need to assemble or connect any components to open the polls.

The ExpressPoll software features an intuitive interface that allows poll workers to quickly and confidently complete voter look up and issue ballots. Developed with Election Day users in mind, the application includes streamlined screens designed to simplify navigation throughout every process. On average, users are able to log in, open polls, search voter records and issue a ballot in less than 60 seconds. Subsequent voter searches, both with manual data entry or by scanning a barcode, can be completed in less than 20 seconds. Poll Place information, such as location details, battery percentage and ballot issued totals, is displayed onscreen, allowing users to quickly verify important information. Post-election, encrypted pollbook transaction logs can be downloaded from the pollbook to a USB device by entering an access code, created by the jurisdiction, and following the onscreen prompts. The thoughtfully designed ExpressPoll electronic pollbook system empowers even novice users to become experts in a short amount of time, improving accuracy of issued ballots and reducing issues on Election Day.

8 CONSUMABLES/PERIPHERALS

8-1 CONSUMABLES

8.1 Describe all consumables used to support the proposed SVS, including estimated life of each product, spoilage/scrap rate, manufacturer, product specifications, part numbers, and quantities required for each piece of equipment or polling place. Examples of consumables include, but are not limited to, ink cartridges, paper, replacement parts, etc.

ES&S RESPONSE

DS200 PRECINCT TABULATOR

- ✔ Thermal Reverse Wound Paper Roll, (NCNR 9078-1514, ES&S #2320) Replace as needed. Keep 20 percent of usage on hand.

EXPRESSVOTE BMD

- ✔ Thermal Activation Cards (ES&S; 11", 14", 17", 19"; stock/ballot. The thermal card stock/ballot uses thermal heat-sensitive paper with 134 Microns +/- 6 Microns (0.005275" +/- 0.00236") thickness). One use per voter.

8 CONSUMABLES/PERIPHERALS

8-2 PERIPHERALS

8.2 Describe all peripheral equipment used to support the proposed SVS. Details should include manufacturer, product specifications, part numbers, and quantities required for each piece of equipment or polling place. Peripherals should include any and all equipment that is required for use, including spare parts, memory cards, equipment stands, proprietary cables or connectors, etc. Also describe non-proprietary equipment that you can provide or provide details for items available for purchase outside of the Master Service Level Agreement (MLSA), including generic cables, extension cords, etc.

ES&S RESPONSE

No additional peripherals are required to support the equipment included in the proposed SVS.

9 TRAINING AND SUPPORT – STATE LEVEL

9-1 GASOS TRAIN EMS

9.1 Provide an extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed EMS in creating and configuring election databases for use in Georgia elections and primaries.

ES&S RESPONSE

ES&S agrees and will comply. Documentation for the below training plan is provided as an attachment in response to **Section 18.5**.

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9 TRAINING AND SUPPORT – STATE LEVEL

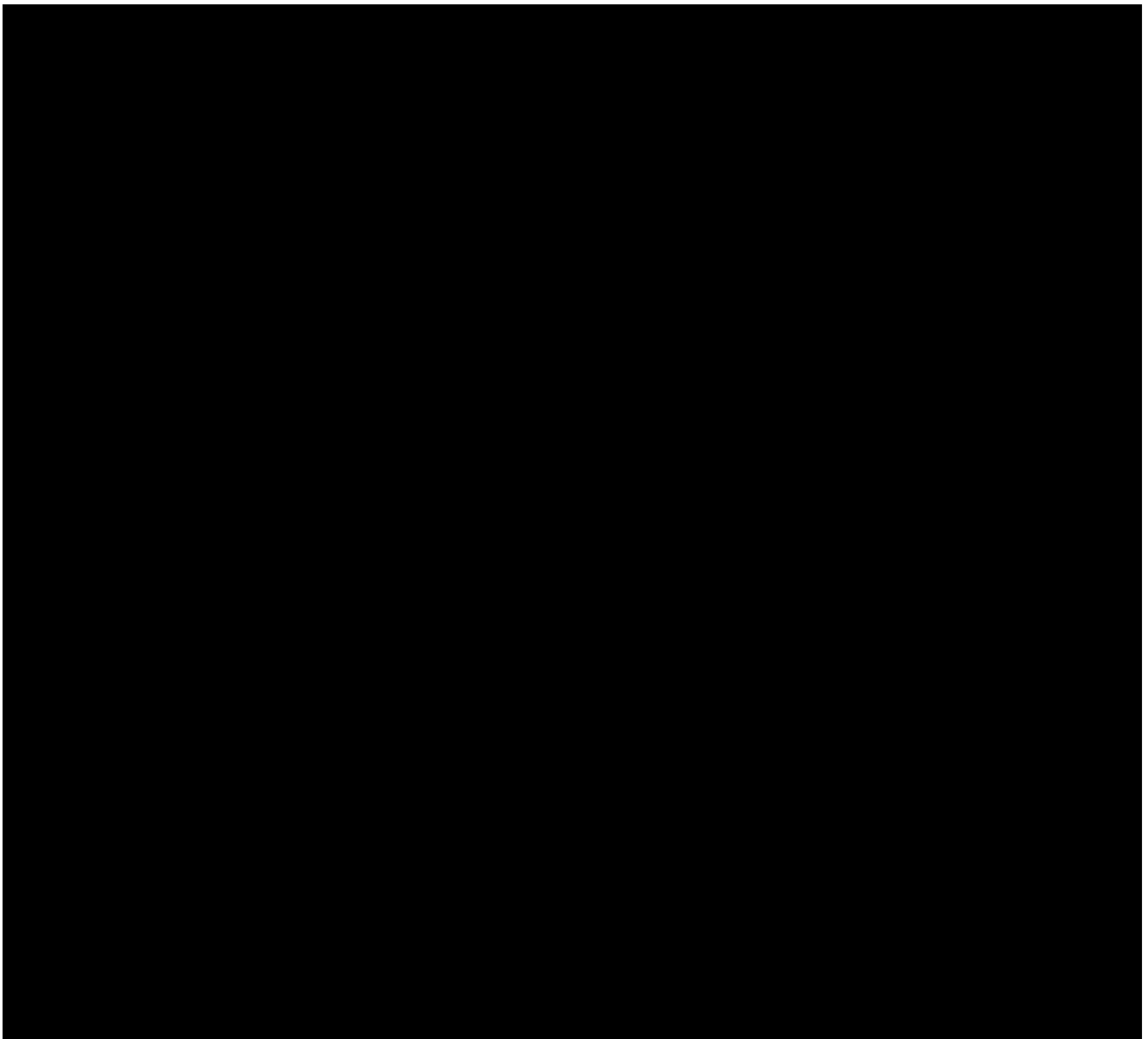
9-2 GASOS TRAIN EQUIP

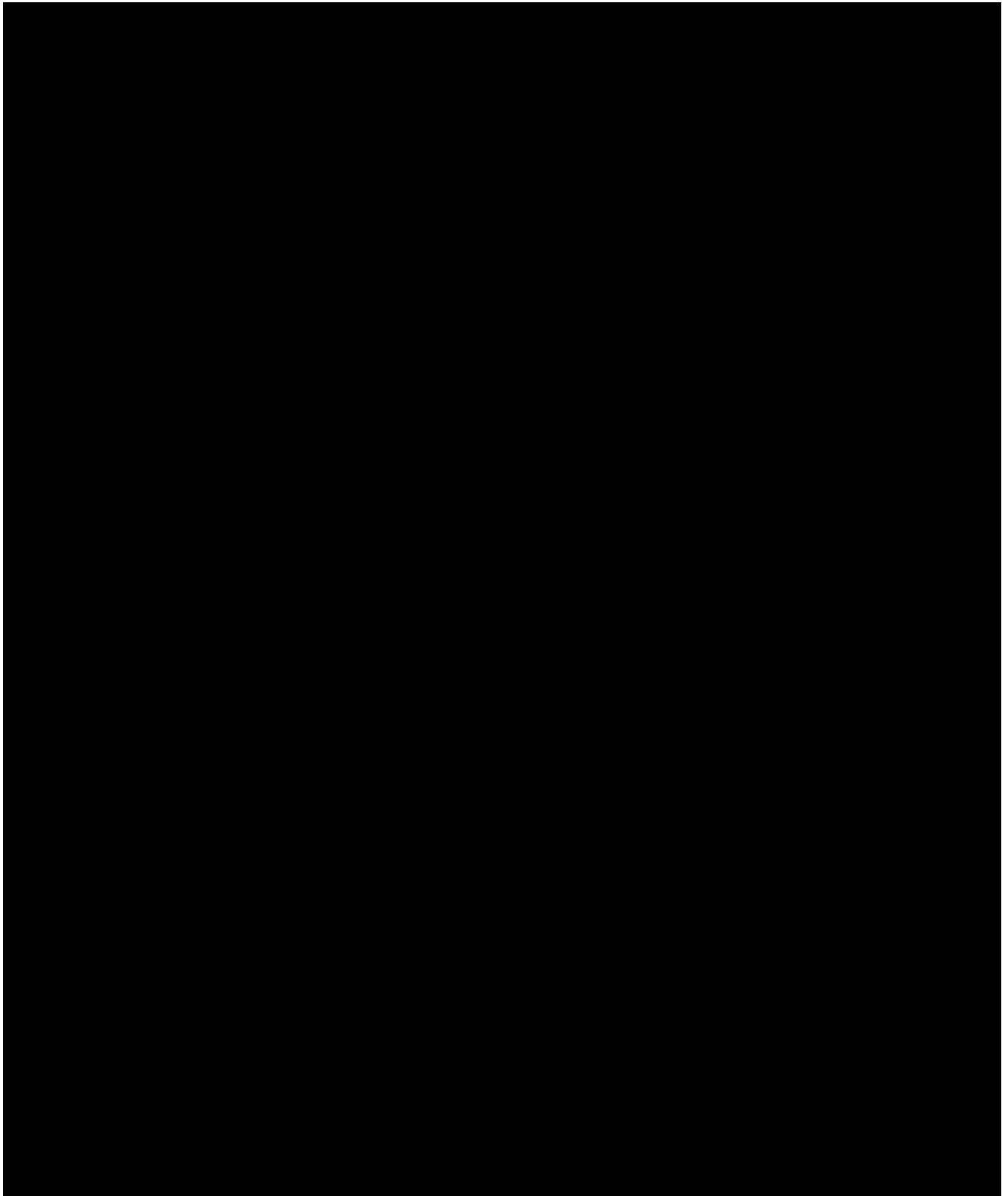
9.2 Provide an extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed PPS, CSD, and BMD.

ES&S RESPONSE

ES&S agrees and will comply. Documentation for the below training plans is provided as an attachment in response to **Section 18.6.**

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9 TRAINING AND SUPPORT – STATE LEVEL

9-3 GASOS TRAIN EPOLL

9.3 Provide extensive, in-depth training plan and documentation for GASOS staff on the setup and use of the proposed EPDMS and EPolls.

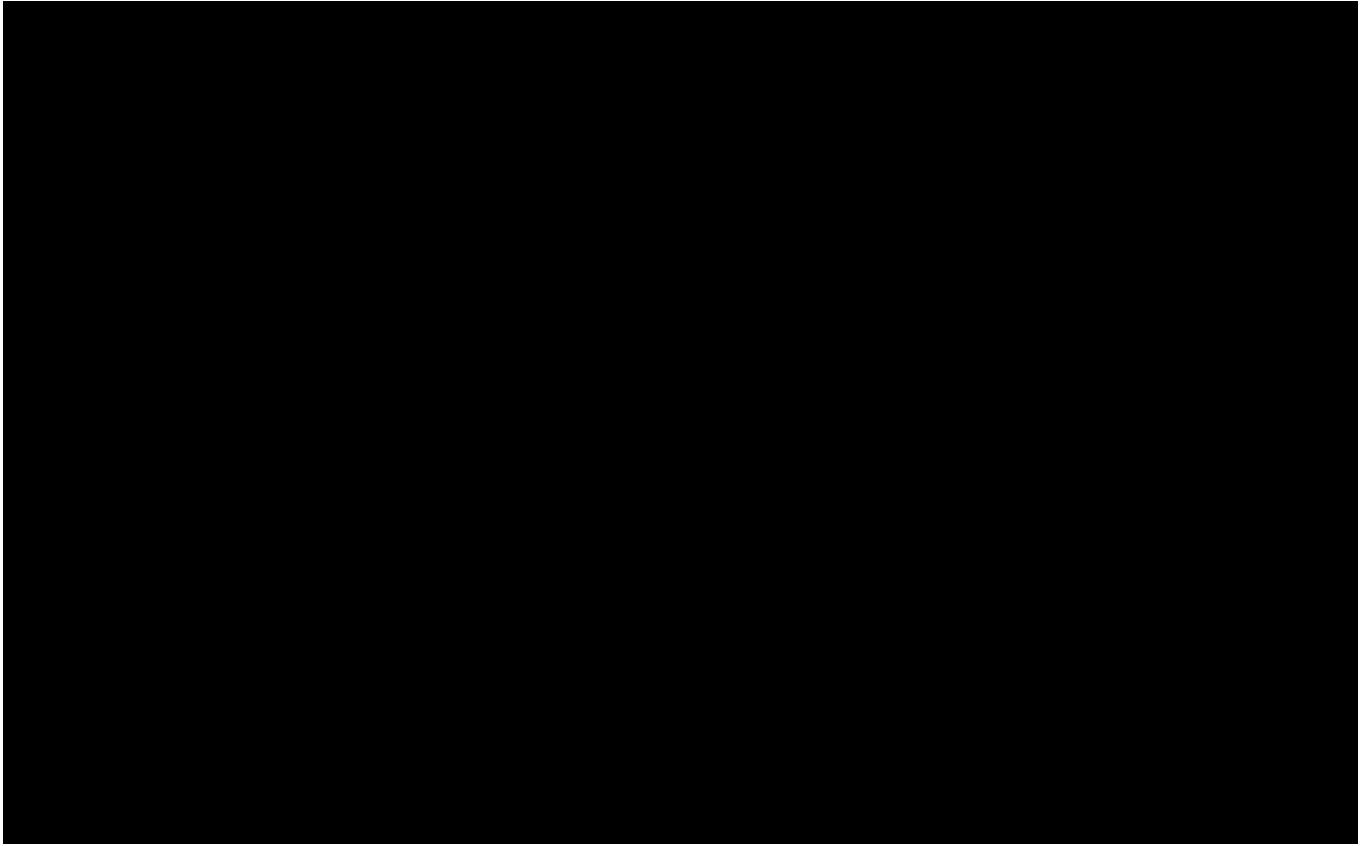
ES&S RESPONSE

ES&S agrees and will comply. Documentation for the below training plan is provided as an attachment in response to **Section 18.6.**

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10 TRAINING AND SUPPORT – COUNTY LEVEL

10-1 COUNTY TRAINING

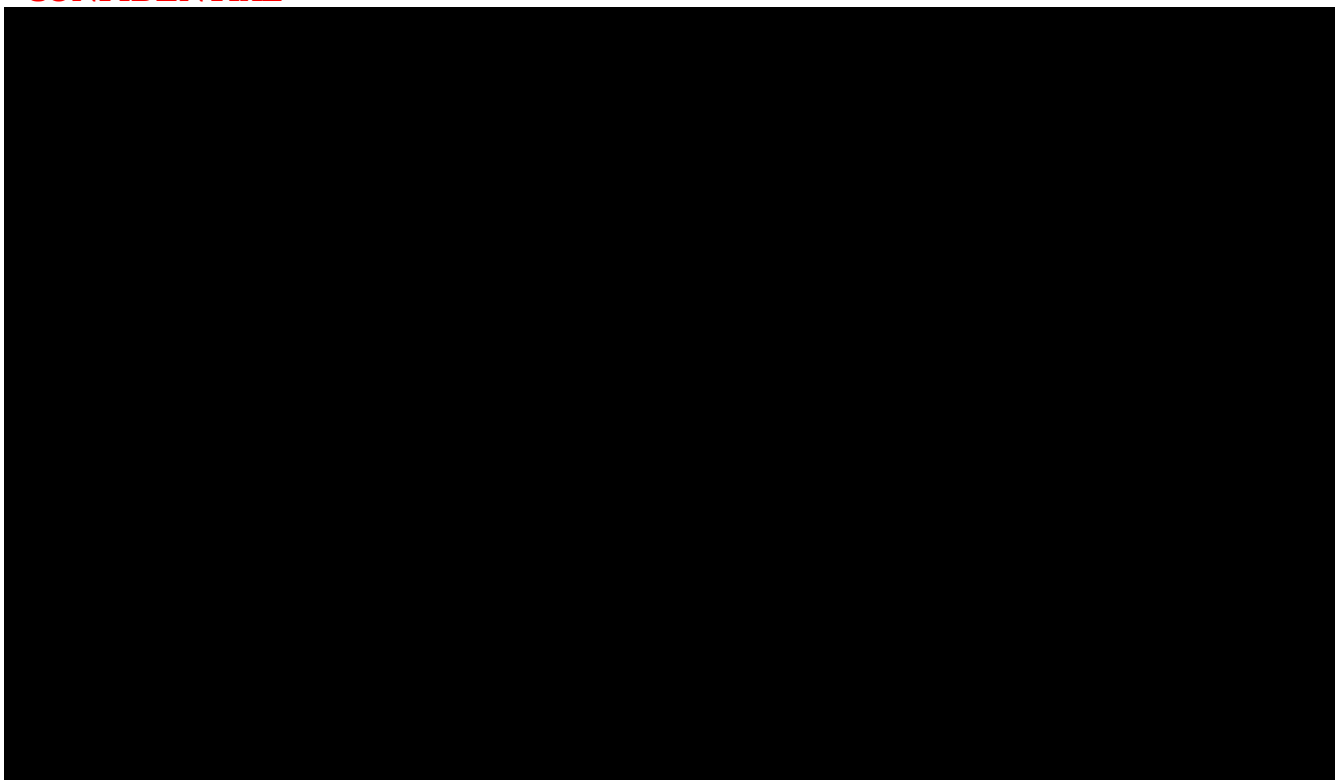
10.1 Provide an extensive, in-depth training plan for county election officials on the setup and use of the proposed PPS, CSD, and BMD. Include a diagram of Advance-In Person voting and Election Day setup of all proposed SVS components.

ES&S RESPONSE

Please refer to **Section 9.2** for full PPS, CSD, and BMD equipment course descriptions, as they will be the same training plans for both GASOS and the counties.

The county-level EMS system training will follow the below curriculum:

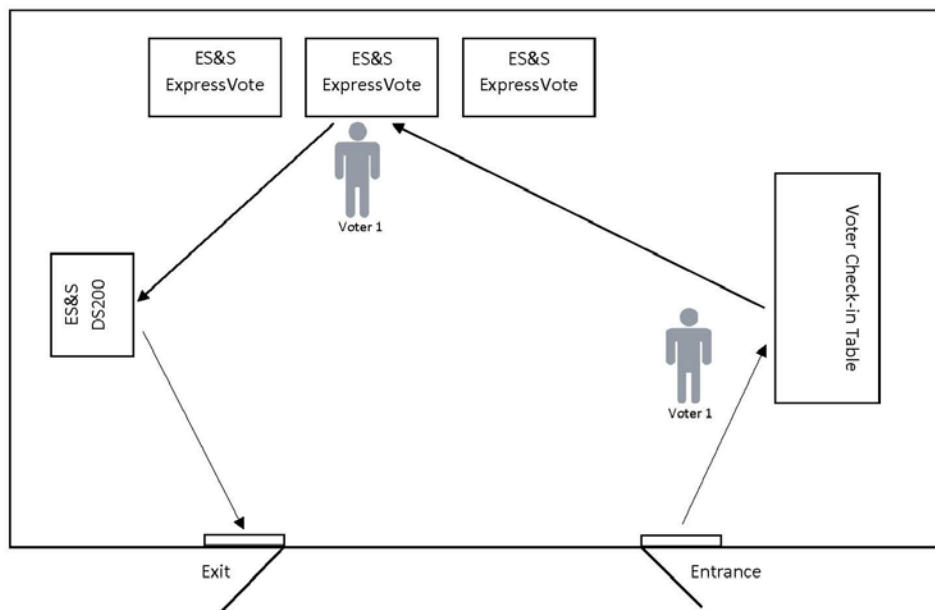
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Please see the below diagrams for Advance-In Person and Election Day voting setup.

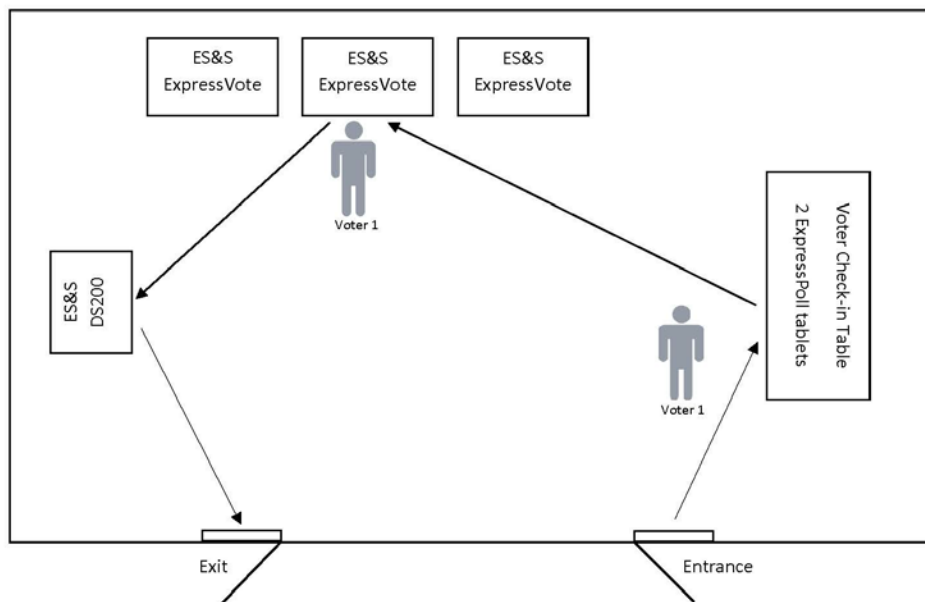
Advance-In Person Layout DS200 & ExpressVote Voter/ADA

**Layout can vary*



Election Day Layout ExpressPoll, DS200 & ExpressVote Voter/ADA

**Layout can vary*



10 TRAINING AND SUPPORT – COUNTY LEVEL

10-2 COUNTY TRAIN DOCS

10-2 Provide a training plan and documentation to each county elections office on, at minimum, the following:

- 1. Loading prepared election database to EMS.*
- 2. Setting amount of Absentee by Mail scanning, Absentee In-Person voting, Election-Day use, and Provisional scanning equipment in EMS to be used for a given election.*
- 3. Viewing and printing pre-election proofing reports from EMS.*
- 4. Preparing necessary election media from EMS for use in the proposed PPS, CSD, and BMD.*
- 5. Preparing and testing equipment for Absentee by Mail scanning, Absentee In-person voting, Election Day use, and Provisional scanning.*
- 6. Configuring and sealing equipment for Absentee by Mail scanning, Absentee In-person voting, Election Day use, and Provisional scanning.*
- 7. Absentee In-Person voting equipment opening and closing procedures (PPS, BMD, EPoll).*
- 8. Election Day equipment opening and closing procedures (PPS, BMD, EPoll).*
- 9. Polling scanning procedures.*
- 10. Central scanning procedures.*
- 11. Transitioning equipment from Absentee In-person voting use to Election Day use.*
- 12. Basic equipment troubleshooting, while in use.*
- 13. Removing and securing collected ballots and removable media.*
- 14. Recovering archived data from internal memory (PPS, EPoll, and CSD).*
- 15. Uploading removable media to EMS.*
- 16. Producing tabulation reports from EMS.*
- 17. Generating export files from EMS for Election Night Reporting (ENR).*
- 18. Preparing post-election documentation from EMS.*
- 19. Preparing finalized copy of election results from EMS for delivery to GASOS for certification.*
- 10. Conducting recounts.*
- 21. Conducting post-election audits.*
- 22. Proper storage and maintenance of all SVS components.*

ES&S RESPONSE

Our ES&S Instructional Design team has developed a comprehensive series of training documentation including Administrator, Poll Worker, and Troubleshooting Guides. Our goal with these training materials is

to provide your election staff with easy-to-follow operating procedures to refer to after the classroom training has concluded. This approach to our customized manuals allows your election staff to be fully prepared and ensures autonomy in election operations while using our equipment. Additionally, ES&S will address the development of training for post-election audits based on the State's auditing requirements.

All of the above topics are covered within the written documentation attached. These manuals will also be provided during each training session.

II BALLOT BUILDING SUPPORT

II-I BALLOT BUILDING

II.I State Level Support - Describe your ability to build ballots for all federal, state, county, and municipal (if executed on the proposed SVS) elections through June 30, 2021.

ES&S RESPONSE

ES&S currently employs three dedicated and full-time ballot builders capable of coding for all federal, state, county, and municipal elections through June 30, 2021 and beyond. Our local ballot building team has an average of 17 years experience building ballots and supporting elections in Georgia. The same high-level of local service and support we currently provide the State can be carried forward without interruption.

II BALLOT BUILDING SUPPORT

II-2 GASOS PHONE

II.2 State Level Support - After June 30, 2021, describe your ability to provide phone support to the GASOS until the end of the Contract, including 24/7 support on Election Day and normal GASOS business hours (8:00 AM to 5:30 PM) 45 days prior to each election.

ES&S RESPONSE

ES&S will staff and maintain a dedicated full-time employee in Georgia for Election Day. In addition to the local, dedicated support team available to the State, ES&S offers the following.

Help Desk

The ES&S **Help Desk** offers multiple support channels to assist customers with issues and concerns ranging from simple “how-to” questions to complex functional inquiries. Customers who purchase and maintain ES&S hardware maintenance and software license support services through ES&S agreements automatically receive on-call telephone support.

Your call to the **Help Desk** during our hours of operation will immediately be answered by an expert hardware or software technician who will answer your questions and/or begin resolution of your issue. ES&S uses remote support tools like WebEx to provide over-the-shoulder assistance when needed. We track all questions or concerns and their resolution in our ticket database and knowledge base to provide continuity of service.

Issue Resolution

- ✓ During Election Day activities, our **Help Desk** is ready to help on its extended-hour schedule (for a 24-hour period beginning at 5 a.m. Eastern) to meet the various poll open and closing times for our customers across the United States. During any General Election, ES&S augments our technical support team to further ensure that your issue will receive an immediate response when you contact the Help Desk.
- ✓ During non-election periods, the **Help Desk** can be reached on weekdays between 8 a.m. to 8 p.m. Eastern Time. After hours, a representative will return your call as soon as possible, but no later than the next business day.

When a planned system maintenance event is scheduled on evenings, weekends, or holidays, ES&S recommends that the account manager be notified, who can inform the **Help Desk** to expect potential service calls, ensuring the most rapid response possible.

Toll-Free Phone Support

Our dedicated toll-free customer support telephone number is 877-ESS-VOTE (877-377-8683). The support line is open 24 hours a day, 7 days a week. **Help Desk** hardware and software technicians will immediately respond to your call during our business hours from 8 a.m. to 8 p.m. (Eastern Time), Monday through Friday.

After hours or during weekend/holidays, you can leave a message 24/7 and a representative will return your call as soon as possible, but no later than the next business day.

If time is of the essence, your account manager and regional sales manager are on call 24 x 7 x 365 and may be contacted on their mobile phones. These on-call individuals will provide the State of Georgia with redundant sources to help you resolve any issue you may have during after-hours, weekends, and holidays.

II BALLOT BUILDING SUPPORT

II-3 COUNTY SUPPORT

II.3 County Level Support -Describe your ability to provide voluntary, county-requested on-site support to county election offices in the general use of the proposed EMS when loading a prepared election dataset, creating and uploading necessary election media, and generating pre and post-election reports through December 31, 2020.

ES&S RESPONSE

For over a decade, ES&S has successfully delivered support services such as onsite testing support and Election Day support to over 65 counties and municipalities throughout Georgia. Our ability to successfully support elections in Georgia is proven.

ES&S will provide one or more locally trained on-site representatives who are available to the customer the day immediately prior to the election, Election Day and one additional day following Election Day. Although needs vary by customer, depending upon the customer's needs and the customer's scheduling of support staff for an election, the ES&S support representatives may assist with general use of the proposed EMS when loading a prepared election dataset, creating and uploading necessary election media, generating pre and post-election reports, election administration, procedural guidance, hardware and software operation, Election Day call center staffing, as roving troubleshooters during Election Day, and election night accumulation of results.

II BALLOT BUILDING SUPPORT

II-4 COUNTY PHONE

II.4 County Level Support - Describe your ability to provide phone support to county election offices in the general use of the proposed EMS when loading a prepared election dataset, creating and uploading necessary election media, and generating pre-election and post-election reports through December 31, 2021.

ES&S RESPONSE

ES&S will staff and maintain a dedicated full-time employee in Georgia for Election Day. In addition to the local, dedicated support team available to the State, ES&S offers the following.

Help Desk

The ES&S **Help Desk** offers multiple support channels to assist customers with issues and concerns ranging from simple “how-to” questions to complex functional inquiries. Customers who purchase and maintain ES&S hardware maintenance and software license support services through ES&S agreements automatically receive on-call telephone support.

Your call to the **Help Desk** during our hours of operation will immediately be answered by an expert hardware or software technician who will answer your questions and/or begin resolution of your issue. ES&S uses remote support tools like WebEx to provide over-the-shoulder assistance when needed. We track all questions or concerns and their resolution in our ticket database and knowledge base to provide continuity of service.

Issue Resolution

- ✓ During Election Day activities, our **Help Desk** is ready to help on its extended-hour schedule (for a 24-hour period beginning at 5 a.m. Eastern) to meet the various poll open and closing times for our customers across the United States. During any General Election, ES&S augments our technical support team to further ensure that your issue will receive an immediate response when you contact the Help Desk.
- ✓ During non-election periods, the **Help Desk** can be reached on weekdays between 8 a.m. to 8 p.m. Eastern Time. After hours, a representative will return your call as soon as possible, but no later than the next business day.

When a planned system maintenance event is scheduled on evenings, weekends, or holidays, ES&S recommends that the account manager be notified, who can inform the **Help Desk** to expect potential service calls, ensuring the most rapid response possible.

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After hours or during weekend/holidays, you can leave a message 24/7 and a representative will return your call as soon as possible, but no later than the next business day.

If time is of the essence, your account manager and regional sales manager are on call 24 x 7 x 365 and may be contacted on their mobile phones. These on-call individuals will provide the State of Georgia with redundant sources to help you resolve any issue you may have during after-hours, weekends, and holidays.

12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

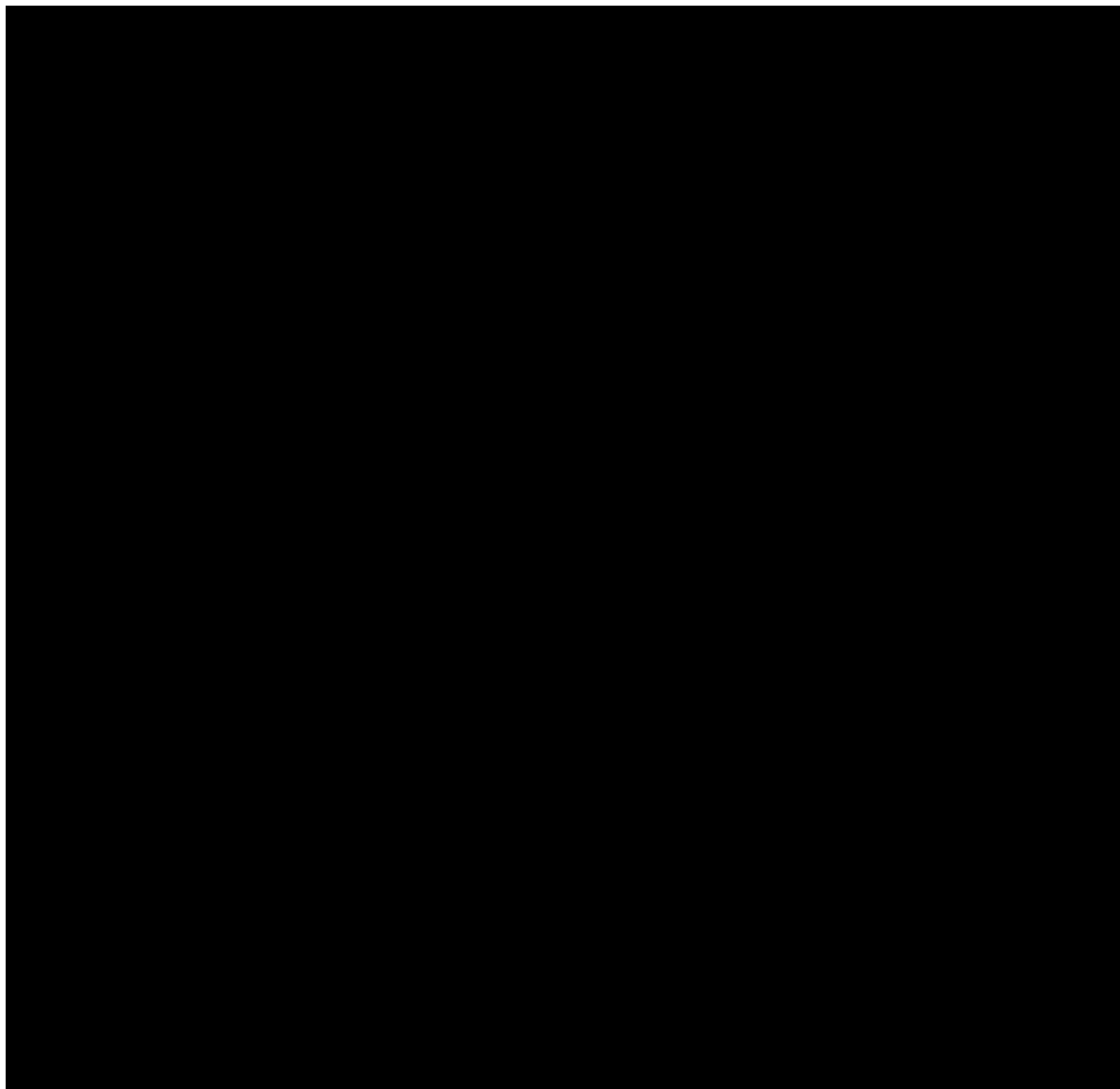
12-1 PM PLAN

12.1 Provide detailed organizational charts, project management methodology, named resources, use of external resources, and work history of projects completed using those resources.

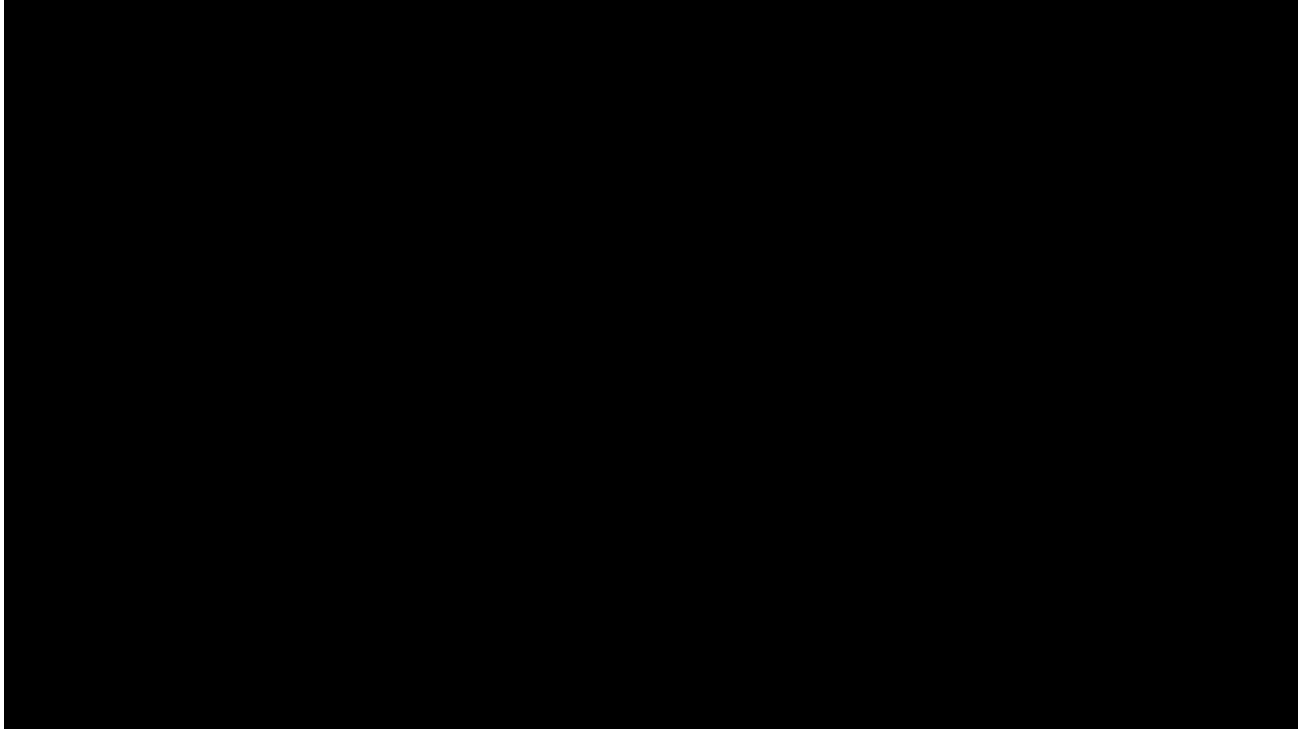
ES&S RESPONSE

Please see the below organizational chart for the proposed project team. Our project management methodology, named resources, use of external resources and work history is included in the attached project narrative.

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12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

12-2 PM STAFF

12.2 Provide detailed staffing and project management requirements/organizational structure and time commitments required of GASOS staff. Describe the organizational structure and full time equivalent (FTE) required for each resource.

ES&S RESPONSE

ES&S will provide one (1) project manager, three (3) account managers, and twelve (12) regional coordinators to assist in the successful implementation of the State of Georgia's project. ES&S will also provide a training and resource manager as well as a field services regional manager. Further details concerning resource commitments required of the GASOS can be found in **Appendix A - Statement of Work** under Organizational Assumptions.

12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

12-3 PM TIME

12.3 Provide a high-level project plan with timeline to implement a project of this magnitude and demonstrate historical information of similar projects and approach to demonstrate ability to deliver this project on schedule.

ES&S RESPONSE

Please see the included Project Plan. ES&S has successfully completed the following state-wide implementations; State of Maryland and the State of Delaware. Larger scale counties include: Franklin County, Ohio, New York City, and The City of Philadelphia (currently in progress).

12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

12-4 DEPLOY I

12.4 Provide a roll-out plan for deploying all components of the proposed SVS to the GASOS for up to 10 local jurisdictions for use in November 2019 elections by August 1, 2019. Reference Attachment O - Potential Equipment Distribution.

ES&S RESPONSE

Please see the included Project Plan.

12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

12-5 DEPLOY 2

12.5 Provide a roll-out plan for deploying of a representative sample of equipment for each county by December 2019. Reference Attachment O - Potential Equipment Distribution.

ES&S RESPONSE

Please see the included Project Plan.

12 PROJECT MANAGEMENT AND PROGRAM SUPPORT

12-6 DEPLOY 3

12.6 Provide a roll-out plan for deploying all equipment to all 159 counties through a phased roll-out in the first quarter of 2020. Reference Attachment O - Potential Equipment Distribution.

ES&S RESPONSE

Please see the included Project Plan.

13 APPLICATION LIFECYCLE MANAGEMENT AND RELEASE MANAGEMENT PLAN

13-1 ALM

13.1 Detail all of the environments used for your development lifecycles (i.e. development, sandbox, user acceptance testing (UAT), and production).

ES&S RESPONSE

The ES&S SDLC supports multiple environments. The Development Environment provides software developers with the facility to complete development and unit testing. Once software has passed unit testing, it is moved to the Quality Assurance Environment where the QA team completes story level testing, integration and regression testing. When QA testing is complete, software is moved to the Certification Environment where testing that mimics federal and state certification testing is performed. After successful Certification testing the software cataloged and ready for distribution to customers and installation in customer environments.

13 APPLICATION LIFECYCLE MANAGEMENT AND RELEASE MANAGEMENT PLAN

13-2 ALM TEST

13.2 Provide a description of testing protocols and outputs provided to GASOS used to formalize releases and make sure all testing has been completed prior to any release. Include sample use cases and sample test results.

ES&S RESPONSE

ES&S Quality Assurance strives to provide continuous confirmation that a product conforms with the applicable industry standards and to the design requirements of the project. Quality Assurance is a function with associated practices that is initiated prior to system development and continues throughout the maintenance life cycle of the product. The ES&S Quality Assurance department conducts extensive testing of all voting system software and firmware prior to submission for VSTL/EAC certification. This testing effort can be segregated into the following levels of testing: unit, regression, automated, functional, volume and integration.

The ES&S Certification department performs additional software and firmware testing prior to entering VSTL certification. These tests include accuracy, volume and stress, system integration and functional testing. At the conclusion of VSTL testing, a test report is produced that is subsequently delivered to the EAC for approval.

The ES&S Manufacturing and Engineering departments document procedures for specifying, procuring, inspecting, accepting, and controlling parts and raw materials of the requisite quality for all delivered systems and components. These departments conduct third-party hardware testing following product development/enhancement.

Additional details regarding the test protocols can be found in the attached System Test Plan. A sample use case and corresponding test case is also included.

13 APPLICATION LIFECYCLE MANAGEMENT AND RELEASE MANAGEMENT PLAN

13-3 ALM MAP

13.3 Provide a generic map or description of your system development lifecycle (SDLC) process for implementing the proposed SVS, GASOS staff required for each SDLC step, your personnel or resources for each step, and provide a generic timeline that is representative of a typical installation for an entity similar to the GASOS.

ES&S RESPONSE

ES&S collaborates with the customer to create a tailored Statement of Work that describes scope, deliverables, milestones, timelines, requirements, resources, responsibilities, risks, and assumptions required to complete the effort of implementing the new ES&S voting system. Major project deliverables for implementation (subject to change based on customer need) include:

1. Project Management Services as defined by the Project Management Institute (PMI)
2. Tabulation Hardware Delivery and Installation
3. Tabulation Hardware User Acceptance
4. Training, Documentation and User Acceptance
5. Election Management System 3rd Party Component Installation
6. Election Management System 3rd Party Component User Acceptance
7. Election Support Services including but not limited to pilot election testing, logic and accuracy testing, Election Day field support and post-election recounts

Please see the Project Plan included in sections **12-4, 12-5 and 12-6.**

14 CURRENT EQUIPMENT INVENTORY AND PRODUCTION CAPACITY

14-1 ACCEPT TEST

14.1 Describe your plan to deliver all acceptance tested SVS components and associated peripherals to the GASOS and each county election office in Georgia during the first quarter of 2020.

ES&S RESPONSE

Please see the included Project Narrative and Project Plan for details. ES&S will deliver all acceptance tested SVS components and associated peripherals for the GASOS and each county election office in Georgia during the first quarter of 2020.

14 CURRENT EQUIPMENT INVENTORY AND PRODUCTION CAPACITY

14-2 EQUIP SPEC

14.2 Provide your SVS equipment specifications and full inventory required (PPSs, CSDs, BMDs, EPolls, etc.).

ES&S RESPONSE

ES&S is proposing the following equipment for the statewide voting system.

DS200

DS200 scanner/tabulator, 23 pounds, 14" x 16" x 5.5"

Hardware Version 1.2, 1.3

Firmware Version 2.17

DS450

DS450 scanner/tabulator, 137 pounds, 32" x 45" x 20"

Hardware Version 1.0

Firmware Version 3.1

DS850

DS850 scanner/tabulator, 200 pounds, 37" x 41" x 18"

Hardware Version 1.0

Firmware Version 3.1

EXPRESSVOTE BMD

ExpressVote Ballot Marking Device, 25 pounds, 16" x 20" x 13"

Hardware Version 2.1

Firmware Version 2.4

EXPRESSPOLL

ExpressPoll electronic pollbook, 1.21 pounds, 11.6" x 12.2" x 10" (Stand) and 9.6" x 6.9" x .33" (Tablet)

For additional information on equipment specification, please refer to the System Overview included with **Section 18-I TDP.**

14 CURRENT EQUIPMENT INVENTORY AND PRODUCTION CAPACITY

14-3 REPLACEMENT

14.3 Identify the replacement process and cycle time for equipment that fails acceptance testing.

ES&S RESPONSE

Typically, 100 percent of the equipment will perform to specification with any repairs taking place simultaneously in concert with the installation. If a failed unit requires replacement, the process is for the Lead Technician to work with the Order Entry department to create a Return Material Authorization (RMA) to return the failing unit and order the replacement unit. When the replacement unit arrives, a Technician will complete the installation process at the distribution facility.

14 CURRENT EQUIPMENT INVENTORY AND PRODUCTION CAPACITY

14-4 FAIL RATES

14.4 Identify testing failure rates currently seen on new deployments of implementations similar to this project.

ES&S RESPONSE

Based on our experience implementing statewide solutions, 3-5 percent of units may not pass initial testing. However, more than 99 percent units pass final testing.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-1 SPARES

15.1 Identify the spare inventory management model to be to be used with this Contract.

ES&S RESPONSE

ES&S stocks over \$800,000 of available repair inventory (spare parts and subassembly inventory) in our Omaha warehouse to support the product line in our proposal.

Our commitment to maintaining high inventory levels is supported through solid supply chain and inventory parts management systems. These include minimum buy commitments and lead time management policies. Our field technicians carry more than \$100,000 in available repair inventory for the product line in our proposal.

Our perpetual inventory system coupled with an ongoing supply chain assessment with our key manufacturers and suppliers provides our customers and field technicians with immediate access to our certified spare parts inventory. This is the primary reason that we suggest the State of Georgia maintain an ES&S warranty service contract as maintenance of a service and support contract guarantees availability of service staff and a certified spare parts inventory.

ES&S tracks parts usage to maintain our perpetual inventory of parts.

I5 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

I5-2 SUPPLIER REPLACE

I5.2 Identify SVS equipment that will be replaced by the Supplier.

ES&S RESPONSE

ES&S' purpose-built equipment will be serviced by ES&S at a local depot facility in Georgia. The ExpressPoll units are a COTS item that ES&S adapts to its' purposes. If those units are damaged or fail, they will be evaluated by a Technician at the depot facility and may be repaired or replaced depending on the outcome of the evaluation.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-3 REPAIR REQUEST

15.3 Describe the process for jurisdictions to submit requests for SVS equipment repair or purchase additional equipment.

ES&S RESPONSE

For repairs, counties can phone or email ES&S Hardware Support, who will assist with equipment operation checks and pass to Field Services if it is determined that a technician is required. For depot repair service, counties can phone or email their local account manager who will assist in creating an RMA and coordinate with Depot Repair technicians.

To further enhance the level of service ES&S provides the GASOS and local jurisdictions, a local Depot Repair facility will be opened and maintained within the state to help reduce the amount of time and shipping costs required to complete necessary repairs on the SVS.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-4 PURCHASE EQUIP

15.4 Describe the process for jurisdictions to purchase SVS peripherals (i.e. storage media devices, ballot storage boxes, batteries, etc.).

ES&S RESPONSE

Counties can purchase SVS peripheral through three options:

- 1) Shop the ES&S online store
- 2) contact Sales or Account Manager person
- 3) contact Order Entry.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-5 PURCHASE CONSUM

15.5 Describe the process for jurisdictions to purchase consumables necessary to operate the proposed solution (i.e., paper, toner, etc.).

ES&S RESPONSE

Counties can purchase consumables through three options:

- 1) Shop the ES&S online store
- 2) contact Sales or Account Manager
- 3) contact Order Entry.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-6 COMMON REPAIRS

15.6 Provide examples of common repair requests seen on like systems with other customers.

ES&S RESPONSE

The most common repair request for the DS200 and ExpressVote are video color shading (scanning), calibration, equipment boot-up, ballot jams due to improper insertion etc., and operator function.

15 LIFECYCLE INVENTORY MANAGEMENT AND SUPPORT

15-7 TURNAROUND

15.7 Provide typical repair turnaround process and times.

ES&S RESPONSE

ES&S designs central scanners and precinct equipment to provide a less than a five (5) percent probability that an unscheduled maintenance action will require more than 30 minutes to complete. Repairs done under our Extended Warranty with Annual Maintenance and Extended Warranty with Biennial Maintenance are typically performed onsite. This would be applicable for DS450/DS850 maintenance and repairs. If the repair cannot be done onsite, or if a customer subscribes to the Extended Warranty, repairs at an ES&S Depot Repair facility are completed, on average, within 7-10 days of receipt.

16 SUPPLY CHAIN CONTINUITY

16-1 SUPPLY CHAIN

16.1 Describe your measures in place and commitments to assure availability of products, components, software, services, and other deliverables for possible length of contract with renewals (15+ years). Describe whether second sourcing of generic or proprietary products is available or could be obtained by the GASOS or counties in the event of a failure or disruption in supply by the Supplier; price protection available to assure reasonable market prices for the life of the contract; and options available for services or upgrades from independent service organizations (if any) authorized or licensed by Supplier.

ES&S RESPONSE

ES&S designs and manufactures its voting equipment to withstand normal use without deterioration and without excessive maintenance cost for a minimum lifecycle of 10-15 years, and we have many examples of equipment that surpassed that time frame.

To ensure the sustainability of our products throughout its lifecycle and beyond, ES&S engineers its voting system products with an eye on durability, ease of maintenance, and availability of parts and supplies. The ES&S supply chain is the most extensive in the election industry. We have the largest product offering, so we must have a strong supply chain. Product sustainability and lead-time compression is the driving force to having a strong supply chain. We choose long-life industrial-grade components and hardware to ensure we meet and exceed parts availability.

We have complete bill of materials for all our product lines. We continually monitor our component inventory supply, customer demand, and supplier availability. ES&S involvement includes inventory management, hardware engineering, manufacturing, purchasing, and field services. Our outside contacts include contract manufacturing partners, manufacturer representatives, manufacturers, and component suppliers. Constant monitoring and effective communications between all manufacturing partners is the main reason why we continue to enjoy success.

ES&S' product development strategy is to create purpose-built solutions that are uniquely customized to support a better election experience. This strategy allows us to sustain the products for a longer period of time as we largely don't rely on consumer off the shelf products.

ES&S has a large team of highly trained technicians located across the country that can be scheduled as the technical support needs arise.

17 QUALITY ASSURANCE

17-1 QUALITY ASSURANCE

17.1 All equipment must be presented to the GASOS for acceptance testing before distribution. All equipment that fails acceptance testing is prohibited from distribution and shall be returned to the Supplier, at Supplier cost. Describe your quality assurance plan to meet the above requirement to ensure that new and repaired equipment moves efficiently through GASOS acceptance testing.

ES&S RESPONSE

ES&S has distinct and separate development and quality assurance (QA) departments. At different phases during the Agile development process, developers will provide a build that will be subjected to thorough testing by the QA department.

As an integral part of our certification testing process, ES&S has a dedicated team of QA and Federal Certification testing specialists whose primary responsibility is to conduct stress, volume, and regression testing for all hardware and software components of the system that will be examined by the VSTL and certified by the EAC and the State certification bodies.

The rigorous testing methodology allows us to completely test each new release from end-to-end before it is reviewed by the Federal testing authorities. The testing plans are built to thoroughly stress each component to validate that the entire system meets or exceeds the VVSG requirements mandated by the EAC.

By the time a certified release is approved by the Federal and State authorities, you can be assured that the production hardware and software components of the system will work exactly as advertised.

Before the voting equipment is delivered, your Project Manager will work with you to modify testing checklists to suit your specific needs. Should any equipment fail the State's acceptance test, ES&S' local team of field service technicians will promptly remediate the failure in concert with the ongoing installation.

18 DOCUMENTATION

18-1 TDP

18.1 Provide a complete technical data package (TDP) for the proposed SVS.

ES&S RESPONSE

Please see included TDP.

18 DOCUMENTATION

18-2 SYSTEM MAP

18.2 Provide a system map for the proposed SVS that explains how each component (EMS, EPDMS, PPS, CSD, BMD, etc.) creates the overall proposed SVS.

ES&S RESPONSE

Please see included system map.

18 DOCUMENTATION

18-3 USER GUIDES

18.3 Provide user guides and manuals for all components of the proposed SVS to the GASOS and to all county election offices.

ES&S RESPONSE

Please see included user guides and manuals.

18 DOCUMENTATION

18-4 STORAGE GUIDE

18.4 Provide storage guidelines for all components of the proposed SVS to the GASOS and to all county election offices.

ES&S RESPONSE

Please see included storage guidelines.

18 DOCUMENTATION

18-5 COUNTY TRAIN SAMPLE

18.5 Provide a sample of county election official training documentation to the GASOS on the basic setup and use of all components of the proposed SVS.

ES&S RESPONSE

Please see the included sample training documentation.

18 DOCUMENTATION

18-6 PW TRAIN SAMPLE

18.6 Provide a sample of poll worker training documentation to all counties on the basic setup and use of the proposed BMD, PPS, and EPoll solutions.

ES&S RESPONSE

Please see the included sample training documentation.

18 DOCUMENTATION

18-7 VOTER INFO SAMPLE

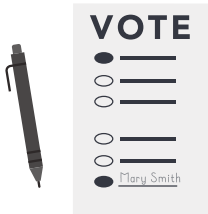
18.7 Provide a sample of voter instructional information on the use of the proposed BMD and PPS solutions.

ES&S RESPONSE

Please see included sample.

HOW TO CAST YOUR

VOTE



1

MARK BALLOT

Fill in the oval next to your selection.

For write-in votes, fill in the oval next to the write-in space, and write the candidate's name.



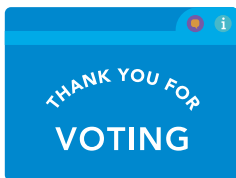
2

INSERT BALLOT

Insert your ballot into the secure tabulator.

Your ballot can be inserted in any direction.

Do not fold your ballot.



3

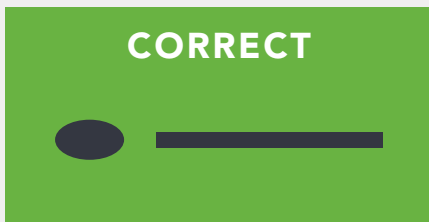
CONFIRM BALLOT

A "Thank You for Voting" message will appear to confirm tabulation.

Consult with a poll worker about other messages.

HOW TO CORRECTLY MARK YOUR BALLOT

Completely fill in the oval next to your selection.



Do not circle your selection or partially fill in the oval.



HOW TO CAST YOUR

VOTE

1

INSERT CARD

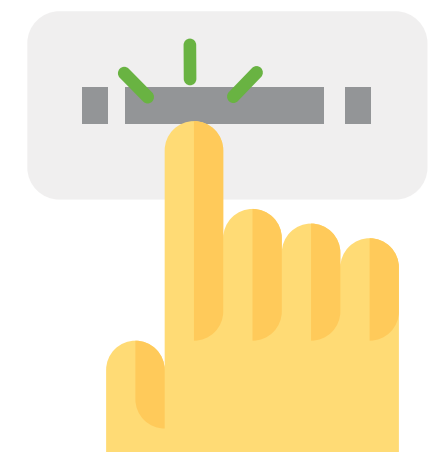
Insert the activation card.



2

MAKE SELECTIONS

Make selections on the screen.
Use the **PREVIOUS** and **NEXT** buttons to navigate through the ballot.



3

REVIEW SELECTIONS

Review all selections on the summary screen. To make changes, touch the contest and make selection.

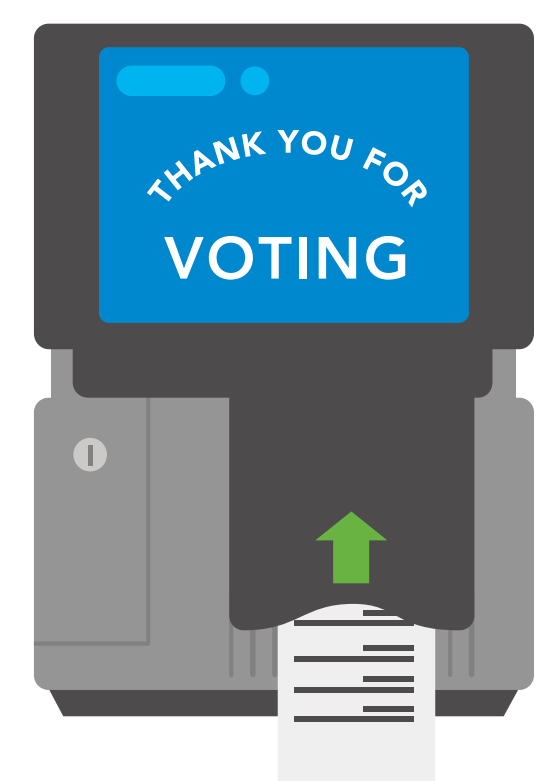


4

PRINT & INSERT

Once selections are confirmed, touch **PRINT**. Review the printed card to confirm your selections.

Insert the card into the tabulator.
A "Thank You for Voting" message will appear to confirm tabulation.



19 NEW TECHNOLOGY

19-1 NEW TECH

19.1 During the term of the Contract, the GASOS may wish to incorporate new components or technologies within the scope of the proposed SVS, which at the time of the Contract's start date were unavailable. Describe how you would manage this process.

ES&S RESPONSE

In the event new components or technologies become available and are within the scope of the proposed SVS, ES&S will provide the GASOS with notice of such new components and technologies. In the event the GASOS determines to incorporate such new components and/or technologies within the scope of the proposed SVS, the parties shall mutually agree upon a change order or amendment to the Agreement which will set forth the new component or technology, the costs associated with such new components and/or technology and any other relevant terms to be mutually agreed upon by the parties.

19 NEW TECHNOLOGY

19-2 ADD COMPONENT

19.2 Supplier may request to add additional types of SVS components throughout the term of the Contract. Describe how you would manage this process. (i.e., introduction of a new model of equipment because of end of life of a component).

ES&S RESPONSE

Unless otherwise provided by ES&S under the Revisions provision of the Agreement with respect to providing software updates, in the event ES&S requests to add additional types of SVS components throughout the term of the Contract, the parties shall mutually agree upon a change order or amendment to the Agreement which will set forth the new components, the costs associated with such new components and any other relevant terms to be mutually agreed upon by the parties.

20 BALLOT PRINTING

20-1 BOD

20.1 Describe your ballot-on-demand solution.

ES&S RESPONSE

With 42 counties in the state currently using our ballot on demand solution, the Balotar Printing System® is a proven product that automates and streamlines all the facets of ballot production and distribution. Designed for small and large counties alike, it has provided Georgia election officials scalable and flexible options to address their on-demand ballot printing needs since 2012.

Balotar is an integrated, highly secure printing system specifically designed to automatically generate ballots for elections on request, providing the ballot styles the jurisdiction needs, when the jurisdiction needs them. Balotar combines commercially available printing components with ES&S proprietary hardware and software modifications, enabling it to meet the demanding printing and audit needs of elections.

Balotar: Key Features & Benefits

- ✔ **Cost efficient.** Enables the counties to avoid pre-printing mass quantities of ballots, significantly reducing waste.
- ✔ **Access security.** Besides Microsoft Windows logon security, the Balotar software is role-based. This allows counties to configure the functions needed for three levels of users: operator, supervisor, and administrator.
- ✔ **Ballot security.** Ballots can be encrypted to prevent printing of ballots from a raw PDF form. This protects against unauthorized printing, even if the security or access to the PDFs is compromised.
- ✔ **Accountability.** Balotar features a printing audit system for built-in accountability.
- ✔ **Ensures maximum ballot readability.** Balotar's precision alignment feeder ensures readable ballots.
- ✔ **Overprint/overlay capabilities.** Balotar software can automatically overprint special text or images onto a completed PDF to meet each county's unique needs.

20 BALLOT PRINTING

20-2 ABS MAIL

20.2 Describe your ballot printing solution for Absentee by Mail voting.

ES&S RESPONSE

As is customary today, counties in Georgia can continue to partner with ES&S or other commercial print vendors for their Absentee by Mail print needs.

ES&S BALLOT PRINTING

On average, ES&S prints over 80 million ballots per year; during the Presidential General elections, we will print more than 100 million ballots for ES&S customers. ES&S' financial strength and stability allows ES&S to further technical innovation through well-funded research and development while maintaining the high-quality service and support our customers require.

Our sophisticated proprietary electronic workflow system ensures accurate and successful elections every time. To provide backup in an emergency and for workflow capacity redundancy, ES&S has two in-house ballot printing facilities in Birmingham, Alabama and Omaha, Nebraska.

In addition, ES&S has an extensive network of partner printers nationwide to ensure that a natural disaster in one region will not affect the ability to meet the needs of our customers. These companies also augment ES&S ballot printing during high-volume election cycles.

Each of our partners uses specific printing guidelines designed for our voting machine requirements and individual state election laws. Our printer partners use paper that has been manufactured specifically for ES&S to guarantee reliability during the tabulation process.

OUTSOURCING BALLOT PRINTING

Regarding commercial print vendors, our equipment is certified to operate with ballots prepared by any print vendor who has been trained via the ES&S printer training program. The ExpressVote thermal card stock does not require pre-printing.

BALLOT PAPER/STOCK

ES&S recommends that all printers use ES&S CountRight ballot stock. CountRight Ballot Stock has been specially engineered to run ES&S' DS200 precinct scanners/tabulators and meets all ES&S specifications for the equipment. As the manufacturer of the scanning equipment, ES&S understands the critical synergy required between the ballot paper, the ink on the paper, and the tabulator logic. CountRight is available to third party printers in two ways:

- ✓ As the only authorized distributor of CountRight, Veritiv offers parent sheets and rolls in several sizes and formats.
- ✓ ES&S stocks and markets CountRight Digital Ballot Stock sheets in a variety of lengths.

Paper Stock: ES&S CountRight Ballot Stock as our testing and certifications are completed using this type and weight of paper.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-I CYBER

21.I Describe how data is imported into the proposed SVS and how data is exported out. Describe how this process is protected against a cyber attack.

ES&S RESPONSE

OVERVIEW

ES&S' secure voting systems employ security in depth, meaning multiple layers of complementing measures. Security measures include integrated warning and alerts, user roles, data encryption, digital signatures, and physical security. No voter information is stored to the voting system software, ensuring voter privacy and security.

Electionware incorporates the very latest in election security, including heightened audit controls and change management processes that are built in to make sure your election data is safe and secure. Electionware requires users to enter a valid username and password prior to gaining access to the application. The passwords are stored as MD5 hashes so that they are unreadable. The system requires that Electionware passwords be strong.

The system administrator creates unique user IDs for each user allowed to log onto election management system (EMS) workstations. Election personnel that are allowed access to the shared folder on the server receive a second unique shared user ID and password. Users are assigned to roles, including: Election administrators, election personnel responsible for coding the elections, election personnel responsible for election results processing, election personnel allowed to access the shared folder on the server, and election administrators allowed to shut down the system.

Depending on a user's access rights, Electionware limits selections. Unavailable selections do not appear in the application interface. Electionware saves a record of all user actions with a username to the system audit log. System security for Electionware limits casual access to system files, but security also depends on sound practices at the election office. Officials should implement a strong physical and procedural security plan that limits access to Electionware to authorized personnel only.

A complete security hardening process is provided for the computer platform of the EMS as a security measure. This process hardens the basic input/output system (BIOS), the operating system, and the User Access Controls so data cannot be modified outside the intended flow of the application or by a malicious hacker. Additionally, unauthorized applications cannot be executed on the EMS workstations. Electionware does not offer any data entry feature that can be used to alter programming.

Furthermore, the EMS system is closed (air-gapped) and therefore has no connection to the internet.

IMPORT DATA

ES&S has extensive experience in partnering with states to support data conversion from Voter Registration software. Electionware provides a very robust electronic data import, including translations and various information such as precincts, parties, contests, candidates, polls, districts and district relations. By utilizing

the powerful importing feature in the Capture module, Department programming staff will not be required to perform data entry. This data import flows smoothly with ballot layout templates, as well as overall election templates to ensure there is consistency within multiple parishes during the election setup phase.

To import data into Electionware, the user creates TXT files using a prescribed ES&S data schema. ES&S can aid in creating any desired scripts to convert existing the State of Georgia data formats into the ES&S schema.

Data can be imported in large groups or individual pieces, and the data can be a replacement or edit for existing data as well.

EXPORT DATA

Our results accumulations software has several export capabilities that will produce results. It provides ASCII exports, as well as multiple other formats such as CSV, XLS, PDF, XML, HTML, and TXT. It also can export the reports (election district, summary, or canvass/spreadsheet) in HTML format so that they can be directly posted on County's website. There is also a web menu tab that allows the State to format their own results displays and use the various menu selections to upload the initial election-specific data (election districts, contest, candidates, etc.) and then populate results. These exports can be performed at any time on election night and used to update the state's website. Some ES&S customers choose to export this information at a set interval.

The Electionware reporting software produces reports in ASCII, CSV, XML, HTML, PDF, RTF, and XLSX (Excel). Excel files can be imported into Access.

ES&S has been involved in NIST (National Institute of Standards and Technology) discussions for common data formats, dedicating resources to assist in the creation of these standards.

ELECTIONWARE DATABASE SERVER

Data directories on the Electionware database server are protected from regular users. The database server accesses data through a service account, protecting data files from direct access.

DATA FROM EMS

Electionware creates access codes and SFTP (Secure File Transfer Protocol) user passwords with an election-specific encryption using Advanced Encryption Standards (AES) methodology. Both the access codes and SFTP passwords are transmitted as unreadable SHA-256 hashes for protection. The election definition is protected both with public/private key digital signing and encryption to U.S. Federal Information Processing Standards (FIPS) standards.

DATA TO EMS

ES&S not only digitally signs results data from the tabulators to the EMS as required by the Election Assistance Commission (EAC) to ensure no tampering has occurred, but we also go a step further. ES&S encrypts the results data to FIPS 140-2 standards. Before results are read into the reporting software, they are signature-verified to ensure authenticity and then decrypted for results accumulation.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-2 SVS SECURITY

21.2 In the proposed SVS, describe how you handle data security.

- Data security for data in transit in and out of the proposed SVS from external systems.
- Data security for data at rest in the EMS.
- Data security for data in transit in the EMS.
- Data security for data at rest in the polling place (EPolls, PPS, and CSD).
- Data security for data in transit to and from the polling place (EPolls, PPS, and CSD).

ES&S RESPONSE

EMS

Electionware creates access codes and SFTP (Secure File Transfer Protocol) user passwords with an election-specific encryption using Advanced Encryption Standards (AES) methodology. Both the access codes and SFTP passwords are transmitted as unreadable SHA-256 hashes for protection. The election definition is protected both with public/private key digital signing and encryption to U.S. Federal Information Processing Standards (FIPS) standards.

ES&S not only digitally signs results data from the tabulators to the EMS as required by the Election Assistance Commission (EAC) to ensure no tampering has occurred, but we also go a step further. ES&S encrypts the results data to FIPS 140-2 standards. Before results are read into the reporting software, they are signature-verified to ensure authenticity and then decrypted for results accumulation.

Data at rest is encrypted and secured in the database on a closed, hardened network. Data in transit is AES-256 encrypted and digitally signed.

EPOLLS

All voter data generated by Pollware for use on the ExpressPoll is strongly encrypted using AES-256 encryption on the tablet. The voter data is encrypted in transit and at rest. To access encrypted data files on the ExpressPoll, the application requires the correct entry of the Pollbook Qualification Code (PQC) to decrypt and access the poll data files generated from Pollware. If the PQC is incorrect, the system prevents access to the voter data.

PPS

DS200 digitally signs and encrypts all DS200 data to prevent malicious tampering. Election definition files, vote results, and ballot image files on the DS200 USB removable memory device are encrypted using Federal Information Processing Standards (FIPS)-compliant Advanced Encryption Standard (AES) encryption using a certified library from RSA (Rivest-Shamir-Adleman). ES&S employs strong AES-128 and AES-256 encryption to FIPS 140-2 standards using the RSA BSAFE Library with ECDSA (Certificate 1058). The results are digitally signed and remain encrypted until imported into Electionware for results accumulation.

CSD

The DS200/DS450/DS850 use digital encryption and signing of key configuration and data files for complete integrity of the election and results. All DS200/DS450/DS850 data is signed with FIPS-compliant digital signature algorithms. All data generated is also signed so the program receiving the data can validate it.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-3 SECURITY ASSESS

21.3 Describe how and how often your business is assessed for cybersecurity and your notification plan to GASOS of any incidents, events, or threats. What standards are followed in establishing cybersecurity to protect your development and repair environment?

ES&S RESPONSE

As standard procedure, our internal security team monitors our network and conducts periodic vulnerability assessments of our corporate network as well as the software production, development, test and QA environments. ES&S contracts with an independent 3rd party security company to continuously monitor the corporate network for malicious activity and indicators of compromise. In addition, ES&S uses the National Cybersecurity Assessment and Technical Services (NCATS) group to perform weekly security and vulnerability scans of our public-facing internet presence.

ES&S works closely with state and federal officials, primarily the U.S. Department of Homeland Security, to share information, learn about potential risks and cooperate on cybersecurity strategy and practices. In fact, ES&S is a leader in the DHS critical infrastructure group discussions on this, helping to drive better information-sharing and higher standards for security.

ES&S is partnering with multiple DHS Critical Infrastructure Program Offices including the National Protection and Programs Directorate (NPPD) and the National Cybersecurity Assessment and Technical Services (NCATS) groups to monitor and share cyber threat information, detect and report indicators of compromise, develop and distribute election security best practices and raise the security awareness of Election Officials and the voting public.

ES&S is the first voting system manufacturer to partner with the CIS to provide Albert sensors to applicable customers. Albert is a unique network monitoring solution that provides automated alerts on both traditional and advanced network threats for state and local counties, allowing organizations to respond quickly when their data may be at risk. Combined with an in-depth review conducted by expert analysts through CIS' 24/7 Security Operations Center, Albert is a fully monitored and managed service that is both personal and customizable.

INCIDENT RESPONSE

ES&S follows the 2018 Department of Homeland Security publication titled: Incident Handling Overview for Election Officials that instructs election entities how to inform DHS about cyber-related incidents. Also, ES&S has a mature, tested incident response policy and process whereby potential cyber incidents are triaged by our internal team of subject matter experts, and whereby circumstances indicate the reporting of the incident to government officials, we follow DHS guidelines for alerting the NCCIC, MS-ISAC, and EI-ISAC.

ES&S utilizes its internal corporate information security staff to receive, evaluate and act upon, as necessary, vulnerability reports received from software manufacturers, cybersecurity researchers and other third parties.

Upon learning of a bug or patch, ES&S would immediately engage a risk management team to assess the severity of the issue. This team would likely consist of members from the jurisdiction, ES&S, Voting System

Test Labs, and potentially the EAC (Election Assistance Commission). In addition to this team, ES&S would engage our Change Control Board for assistance with release planning for a potential fix/patch.

Once the risk assessment is complete, we should have adequate data to supply the jurisdiction with timelines for development, testing, certification (if applicable), and installation of the fix/patch at the jurisdiction's site. ES&S will make every attempt to comply with releasing security patches within no more than 72 hours of release.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-4 BEST PRACTICES

21.4 Describe the best practices that you recommend for protecting the environment that you are proposing for the SVS.

ES&S RESPONSE

The single most important best practice for protecting the technology environment being proposed for the State of Georgia is the hardening of the Election Management System (EMS), which is the process of configuring servers, workstations, and network equipment in an effort to minimize security vulnerabilities and have a standard configuration of the EMS for each release. Configuration settings are based on security best practices and recommendations from Federal and Industry Standards that provide specific and actionable ways to prevent malicious activity and improve the collective security of EMS systems, and to achieve acceptable levels of integrity and reliability of voting systems. When an ES&S EMS system or network is hardened, the cybersecurity posture of the network is improved which lowers the risk to outside threats.

Federal Guidelines recommend that security standards of voting systems include the following objectives:

- ✓ Protect critical elements of the voting system
- ✓ Establish and maintain controls to minimize errors
- ✓ Protect the system from intentional manipulation, fraud, and malicious mischief
- ✓ Identify fraudulent or erroneous changes to the voting system
- ✓ Protect secrecy in the voting process

Hardening configures the EMS systems and network to include only the services, applications, utilities, and settings required to successfully operate the EMS. By utilizing certified scripts and updates, a standard configuration that has been developed, tested, and certified ensures a secure and reliable voting infrastructure. Hardening of the EMS helps conform to Federal and Industry Standards. This is accomplished by configuring and locking down multiple areas of the voting systems. Access and functionality is restricted to only that required to operate the voting systems. Examples of system hardening activities include:

- ✓ Modifying the Windows registry
- ✓ Configure Account and Local Policies
- ✓ Configure Software restriction policies
- ✓ Removes non-essential Windows components
- ✓ Sets permissions on application folders

The combination of hardening, following the standard configuration of the certified environment, and robust physical security at the EMS environment location, you can be confident that you are following the EAC best practices for providing secure elections.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-5 CONNECT

21.5 Describe if the proposed SVS employs any type of wireless, Bluetooth, or internet communication. If yes, what protocols and what security standards do you use? Can it be turned off and still allow the SVS to function?

ES&S RESPONSE

EMS, PPS, CSD, BMD

The proposed system operates in a standalone state utilizing an isolated network infrastructure. The tabulators are standalone, and the EMS computers are “hardened,” which means they are set up to be separated from any interaction with any other network, including Internet, wireless and Bluetooth networks.

EPDMS/EPOLLS

The ExpressPoll tablet supports standard 802.11ac protocols for LAN, WAN, or internet communication. Where applicable, the Wi-Fi can be enabled or disabled within the operating system. The standard configuration for the Wi-Fi connectivity utilizes WPA2-PSK with AES.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-6 ACCESS

21.6 What type of user access protection is required for each part of the proposed SVS? What is required for administrative and maintenance access to SVS equipment?

ES&S RESPONSE

System and election administrators use the access control and role assignment features of the Microsoft Windows operating system, Windows User Account Management system, and the NTFS file system to assign roles and restrict access for programs installed on the Electionware election management system (EMS) or Pollware poll data management system (EPDMS) PC and prevent external access to system files.

For both the Electionware and Pollware software, users must first authenticate to Microsoft Windows via access controls and then to the software via entry of a strong password. Electionware and Pollware requires users to enter a valid username and password prior to gaining access to the application. Strong password methodology is used that requires the password to be at least 8 characters long and include at least one number, one uppercase letter, one lowercase letter, and no spaces. The administrator can set the password expiration policy for the user. Passwords are stored in the system as MD5 hashes, making them unreadable.

Users are assigned to user groups with role-based access to Electionware on the Microsoft Windows server and workstations. Each user must be assigned to a specific group that controls access to functionality.

Depending on a user's access rights, Electionware limits selections. Unavailable selections do not appear in the application interface.

Specific users would be assigned to an authorization level. The system has configurable user/roles/task subsystems that then allows customers to tailor exactly what functions they wish to enable for any of the three security levels – operator, supervisor or administrator. Assignment of users to security levels, and what functions are available for each level, are completely configurable.

The following roles are created during PC setup and configuration:

- ✔ The ElectAdmin (Election Administrator) role accesses all the administration features for the election.
- ✔ The ElectDefine role can define the election and prepare the media used to load the election definition onto voting/tabulating equipment.
- ✔ The ElectResult role can process the incoming results media/information and create results reports.

The following Electionware user roles can be assigned at any time using Electionware user rights management tools:

- ✔ An Administrator has access to all functionality in Electionware.
- ✔ A User has access to most of the functionality in Electionware except the Manage module. This limited access will not allow an individual with User level access to print the audit log.

- ✔ A Ballot Producer has limited access and can only print ballot-on-demand ballots in Electionware.
- ✔ A Media Creator has limited access and can only create media in Electionware.

Furthermore, the EMS database server accesses data through a password-protected service account, protecting all Electionware database files from direct access. The database data directory is only accessible by the operating system administrator group and not by the regular user role. The data is accessed by the database server through a service account, thereby protecting the data files from being directly accessed.

Every user action is logged, and all database tables have a “modified by” and “timestamp” column containing the user account that modified the record and when it was modified. All the tables have journal tables that capture the history of changes made to the contents of the tables.

Electionware saves a record of all user actions with a username to the system audit log. The Electionware administrator role user accounts have access to the audit logs and can view/print the audit log report. The audit log report can be exported to different formats like PDF, RTF, HTML, XLS and CSV. The audit events can be filtered by date and time range, event types and sorted in ascending or descending order.

DS200/DS450/DS850: Rather than individual user authentication, there are three different access codes that allow the user to perform various actions on the tabulator based on access levels.

ExpressVote: A user’s role (election official or voter) determines which screens are presented and can be navigated. A physical switch behind a locked door determines which role is active. The required election security code on the System Maintenance screen prevents unauthorized individuals from progressing beyond the Election Code entry screen. ExpressVote requires a password for executing functions such as loading of the election definitions and a system maintenance security code for access to critical areas of system configuration, such as upgrading firmware, and thus restricts access to these areas to authorized personnel.

Pollware and ExpressPoll:

Pollware Users are assigned to user groups with role-based access to Pollware on the Microsoft Windows 10 workstations. Each user must be assigned to a user role that controls access to functionality.

Depending on a user’s access rights, Pollware limits selections. Unavailable selections do not appear in the application interface.

Specific users would be assigned to an authorization level. The system has configurable user/roles/task subsystems that then allows customers to tailor exactly what functions they wish to enable for any of the four security levels – Administrator, User, Media Creator or Report User. Assignment of users to security levels, and what functions are available for each level, are completely configurable.

The following Pollware user roles can be assigned at any time using Pollware user rights management tools:

- ✔ An Administrator has access to all functionality in Pollware.
- ✔ A User has access to most of the functionality in Pollware except the Manage module. This limited access will not allow an individual with User level access to edit Jurisdiction or User information.
- ✔ A Media Creator has limited access and can only create media in Pollware.
- ✔ A Report User has limited access and can only generate reports and export files in Pollware.

User Roles to access the ExpressPoll application can also be defined to prevent unauthorized access to the electronic pollbook, or ensure users are logged in to the correct polling location. Sensitive functions, such as removing voter credit or updating a voter's status, can also be configured to require a password, preventing access for non-administrative users.

Every user action, in both Pollware and on the ExpressPoll application, is logged and all database tables have a "modified by" and "timestamp" column containing the user account that modified the record and when it was modified. Audit logs can be viewed or printed, as well as exported to different formats like PDF or CSV. The audit events can be filtered by date and time range, event types and sorted in ascending or descending order.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-7 UPDATES

21.7 Describe the process for updating the proposed SVS as security requirements change. Describe how often updates are supplied and the certification process for these updates.

ES&S RESPONSE

ES&S continually upgrades and scales our systems and products to conform to both federal guidelines and state law requirements. Throughout the years, our scalable technology has allowed ES&S to build and adapt systems to conform to and be federally certified to meet the increasing technology demands of the 1990 FEC, 2002 NASED, and EAC Voluntary Voting System Guidelines, while also meeting the demands of state certification requirements.

When federal guidelines and state law changes require new releases of our products, ES&S works with our customer base to develop federal and state certification timelines and upgrade strategies to ensure that the upgrades occur around the election calendars of the counties.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-8 KEY

21.8 Describe if any component of the proposed SVS has a key, dongle, licensing time clock, or disabling device.

ES&S RESPONSE

Our proposed voting solution uses strong physical access controls. The ExpressVote, DS200, DS450 and DS850 each come with a set of keys. The equipment secures all data ports behind lockable sealable access doors to protect access and allow election officials to easily detect unauthorized access. Controlled keys and unique locks, security seals, and security screws eliminate system tampering during storage, transport and use.

The equipment can also be configured to require a password. If a password is entered incorrectly too many times, the equipment automatically disables the login screen for a certain amount of time. The ExpressVote disallows another password entry for 30 seconds, the DS200 shuts down, and the DS450/DS850 scanners exit out of the login screen.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-9 FOOTPRINT

21.9 For physical security purposes, provide footprint dimensions for storage and use for all equipment proposed in the SVS environment including stacking height for storage and placement spacing while in use. Also, list all GASOS or county supplied equipment that would be required to store and use the proposed SVS (i.e. tables, chairs, extension cords, privacy shielding, computer hardware, etc.).

ES&S RESPONSE

Product	Storage Dimensions	Maximum Stacking in Storage	Dimensions/Placement in Use
DS200	14"W x 5.5" H x 16" D	<p>* The clamshell carrying case, which serves as the top of the ballot box during operation, can be closed and the tabulator, carrying case, and ballot box base can be stored together.</p> <p>* The tabulator and carrying case can be removed from the ballot box base, and up to five (5) ballot box bases can be stacked together.</p>	14"W x 13"H x 16" D (Operation)
DS200 Plastic Ballot Box	24"W x 35.5"H x 8"D	Ballot boxes may be nested five (5) high.	24"W x 35.5"H x 8"D
DS450	45"W x 21"H x 20"D	The central scanner is designed to remain in a central location.	45"W x 21"H x 20"D
DS850	41"W x 37"H x 18"D	The central scanner is designed to remain in a central location.	41"W x 37"H x 18"D
ExpressVote	20"W x 17"H x 5"D	Without a case, ExpressVote units may be stacked eight (8) high. In the soft case, ExpressVote	29" in width, 5.5" in depth, 17" in height when operational.

		units may be stacked four (4) high.	
ExpressPoll	19" x 14.5" x 7.5"	Storage cases can be stacked up to five cases high.	10.2" x 6.9" x .35"

Since each ExpressVote ballot marking device and DS200 precinct scanner is a standalone unit and doesn't require networking, placement within the polling place is flexible, allowing poll workers to ensure voter privacy, accessibility, and security.

The DS200 and DS450/DS850 is a standalone unit that does not require additional GASOS or county supplied equipment. The ExpressVote would require a table and privacy shield if it is not set within a booth. The ExpressPoll electronic pollbook would also require a table.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-10 BALLOT SECURE

21.10 Describe your method of securing voted paper ballots upon removal from the PPS for transport and storage.

ES&S RESPONSE

The DS200 includes a tote bin inside the plastic ballot box enclosure. The tote bin is lockable and sealable and allows the ballots to be transported to election central after poll closing in a secure manner. The removable tote bin helps poll workers manage ballot box capacity, provides an easy way to transport ballots at the end of the night, and eliminates the need for poll workers to remove or otherwise handle the marked ballots.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-11 CHAIN

21.11 Describe the chain of custody best practices that you recommend for handing completed ballots during collection, in transit, and in storage to ensure the security of the ballots.

ES&S RESPONSE

The DS200 includes a tote bin inside the plastic ballot box enclosure ensuring that county election officials and poll workers meet the State's current guidelines for chain of custody. The tote bin is lockable and sealable and allows the ballots to be transported to election central after poll closing in a secure manner. The removable tote bin helps poll workers manage ballot box capacity, provides an easy way to transport ballots at the end of the night, and eliminates the need for poll workers to remove or otherwise handle the marked ballots.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-12 BALLOT BOX

21.12 Describe how the proposed SVS prevents “stuffing the ballot box” with paper ballots printed from BMDs and/or photocopied or otherwise forged ballots.

ES&S RESPONSE

The election definition on each machine ensures that only authorized ballots can be cast. No external, unauthorized, or “rogue” ballot or votes can be cast with the ES&S system. Any ballots that do not match the styles programmed in the election will not be accepted. Rather, they will be rejected by the ES&S tabulators as invalid.

The precinct tabulator and its ballot box provide multiple keyed locks and wire seal locations to secure storage compartments and ensure the security of your election. If desired, tape seals can also be used for additional security. All lock and seal locations can be easily accessed by poll workers to open and re-lock or re-seal as needed. The precinct tabulator itself has three keyed locks and provisions for three wired seals. The ballot box has seven keyed locks and nine locations for wired seals.

Many counties have the precinct tabulator installed on the ballot box before Election Day and delivered to the voting center as a self-contained unit. When assembled, the ballot box ensures the ballot path from the precinct tabulator to the ballot box is completely secure and contained. The only way for a ballot to be deposited in the ballot box is by scanning it through the tabulator.

All ES&S tabulation devices used for a jurisdiction’s election should be protected from access by unauthorized users. Election definition media (program chips, compact flash memory cards, etc.) should be removed from equipment and stored in a separate, secure area when the tabulators are not in use. During tabulation, election officials or poll workers should monitor system use to ensure that no unauthorized personnel tamper with the equipment.

21 SYSTEM DATA, SECURITY, AND ACCESS

21-13 PHYSICAL SECURITY

21.13 Describe your proposed SVS' physical security features including seals, locks, and tamper-evident features and describe if there are any exposed data ports such as USB ports, cable inputs, etc. on any components.

ES&S RESPONSE

POLLING PLACE SCANNER

The DS200 tabulator and the plastic ballot box, with the carrying case installed, provide a variety of locations to lock and seal the DS200 and the ballot box to secure the DS200, USB election definition flash drive, and ballots during Election Day. Both the doors to the ballot box - official ballot compartment, auxiliary bin - can be locked and sealed to secure ballots in those compartments. When the carrying case, including the DS200, is installed on top of the ballot box, an additional carrying case lock and 5 (five) seal positions are available to secure the scanner and box from tampering with the tabulator prior to poll opening.

The DS200 tabulator includes three locks used to physically prevent unauthorized access to the internal components. The following locks are used to limit physical access during the election period:

- ✔ The first lock secures the LCD display. This laptop type hinging display doubles as a built-in security lid. When it is locked into its down or stored position, access to the tabulator input tray and other components are denied.
- ✔ The second lock, that cannot be accessed until the lid is raised, prevents unauthorized access to the DS200 election media, Power switch, and Close Polls switch. An additional lever in this switch compartment controls access to the printer and paper loading mechanism.
- ✔ The third lock, that also cannot be accessed until the lid is raised, secures the rear access door of the DS200. This lockable door covers the battery access, RJ-11 modem jack (landline configuration) and backup USB flash drive port. This area also includes an optional modem antenna (cellular configuration) depending on the selected configuration.

After the tabulator is attached to a ballot box for vote tabulation, a locking door hinges into place over the front of the tabulator to prevent removal of the device. This also prohibits access to an expansion USB port on the back of the DS200.

Use of seals further provides physical security for the DS200. A wire seal can be used to secure the election definition on the USB memory media. Tamper-evident seals can be placed over access points and seams. ES&S can provide recommended placement.

The design of the plastic ballot box makes it easy for a poll worker to re-lock and re-seal the DS200 when required.

The DS200 system continuously evaluates whether the hardware and firmware are executing only in the authorized fashion. Any deviations from this execution due to tampering or system issues are immediately logged and reported to the user via the touch-screen interface and the machine Events Log.

The DS200 Events Log report lists all system events (errors, exceptions, and user-initiated functions) from the time an election worker inserts the unit's removable USB memory device until the memory device is removed. Each event appears in the audit record with a date and time stamp.

A user can view the Events Log on the DS200 or print the contents on the thermal printer built into the machine or from the Electionware EMS after a user has closed the polls and transferred the data from the memory device to Electionware.

CENTRAL SCANNING DEVICE

The central tabulators secure all data ports behind clear plastic lockable and sealable access doors to protect access and allow election officials to easily detect unauthorized access. All critical hardware components can be locked and sealed, as well. The central tabulators log when the imaging heads are accessed. They provide additional alerts and log access to the back-service door.

All ES&S tabulation devices used for a jurisdiction's election should be protected from access by unauthorized users. Election definition media (program chips, compact flash memory cards, etc.) should be removed from equipment and stored in a separate, secure area when the tabulators are not in use. During tabulation, election officials or poll workers should monitor system use to ensure that no unauthorized personnel tamper with the equipment.

BALLOT MARKING DEVICE

The ExpressVote ballot marking device (BMD) has a locked access compartment to protect the USB media devices and ports. The access compartment key lock may be covered with tamper-evident seals. The integrity of these seals should be maintained at all times, and only breached under controlled and explained circumstances.

- ✔ The first lock is a dual-purpose lock that secures the ExpressVote into the docking station of the rolling kiosk. This lock is not applicable for the table or voting booth configurations.
- ✔ The second lock prevents unauthorized entry to the access compartment, which protects the solid-state drive, USB ports, the election media, keypad port, mode switch and power switch. Within the access compartment, additional security is provided with a metal security box that is installed over the solid-state drive.
- ✔ The third lock prevents unauthorized entry to the front of the paper path, which prints and scans vote summary cards.
- ✔ The fourth lock prevents unauthorized entry to the side of the paper path.

A security seal should be placed in the following locations:

- ✔ Front and side paper path doors
- ✔ Over the election definition USB flash drive in the access compartment
- ✔ Access door key lock or door seam

ELECTRONIC POLLBOOK

The ExpressPoll system can be set up to require entry of a consolidation/precinct name, a user name or names from two different poll workers, and a jurisdiction-defined password from one or two users to activate the software and load the election data.

The software maintains a complete transaction audit log with tables containing a record of all ballots issued and other significant activity that can be printed or exported. The audit log is stored on a microSD memory card, and a backup copy of the audit log is stored in the tablet's internal memory.

To prevent tampering, a security seal can be attached to the ExpressPoll's case and placed over the microSD card slot on the tablet.

All elector data is encrypted to meet AES-256 encryption standards, one of the highest encryption levels available. The elector data is encrypted at this level in transfer and at rest. The files are transferred via a USB drive to the pollbooks and from the pollbook to the Pollware software which generates the voter history exports. Data redundantly stored in the ExpressPoll's internal memory and on the micro-SD card can be encrypted using these encryption protocols.

22 POST ELECTION AUDITS

22-1 TAB AUDIT

22.1 Describe the proposed SVS' hardware and software features that facilitate post-election tabulation audits.

ES&S RESPONSE

The ES&S system will allow the State to effectively and efficiently audit election results while maintaining the secrecy of the ballot. The proposed system has been used in a number of jurisdictions that require post-election audits, including manual audits, risk limiting audits and any other required audits.

The ES&S system meets stringent requirements for system audits to provide the supporting documentation for verifying the accuracy of reported election results. The DS450/DS850 central tabulator can be used to rapidly perform recounts. Our system includes detailed audit logs, digital images of the ballots or vote summary cards with electronically linked Cast Vote Records (CVRs), paper records, and central tabulator batch/bin reports.

RECOUNTS

The DS450/DS850 central tabulator can be used to rapidly perform a recount of paper ballots and vote summary cards.

If a subset of ballots needs to be counted, the Electionware election management system can quickly identify the Election Districts and ballot styles associated with the recounted contest. Electionware software provides a powerful means for restricting the election definition to a subset of contests or Election Districts specified for a particular recount.

This definition can be loaded on the DS450/DS850, allowing for sorting and/or recounting of the ballots in question as permitted under a jurisdiction's election law.

AUDIT LOGS

The ES&S voting solution contains audit logs with sufficient information to allow the auditing of all operations related to election and ballot setup, ballot tabulation, results consolidation and report generation. The system audit logs are created and maintained by the system in the sequence in which operations were performed.

All audit logs contain an identification of the program and version being run, identification of the election file being used, record of all operator entries, record of all actions performed by the system or subsystems, record of all tabulation and consolidation input and a record of all ballot or system overrides performed. Only an authorized system administrator can locate, read and print the system audit logs.

The machine audit logs for all proposed voting machines list every event that occurs from the time you load your election definition via the USB media drive until you remove the media after the election is complete. These events, which are tagged with time and date, include election-related events, errors and user interactions. The machine audit logs retain entries from all internal components capable of producing an audit log entry, such as the power management board, the hardware board and the election processing firmware. The audit logs from every unit used in the election can also be centrally viewed or printed in Electionware.

The Electionware election management system itself creates an audit log that includes all logins and actions performed by each user while logged into the application, including all results database creations, file exports and imports, report printing and results updating processes. This audit log is maintained intact from the initial start of the election cycle to the reporting of official results. In addition to the main audit log, two additional audit logs are maintained for the logging and tracking of results entered via the provided manual entry feature and when last-minute changes are made to contest and or candidate names within the module.

Electionware audit logs are maintained as an archive with every election backup. They include entries that identify the exact change, the date and time of the change, the user ID, and the module impacted.

BALLOT IMAGES/CAST VOTE RECORDS

The units providing tabulation functionality can also capture digital images of each ballot or vote summary card cast and associated Cast Vote Record (CVR), which also can be used for recounts and adjudication.

To ensure security and protect voter anonymity, the ballot images and CVRs are stored with random names assigned to each ballot image file and have their file timestamps obfuscated. Electionware provides online adjudication that retains both the CVR as initially tabulated and the adjudication board's modified CVR. The ballot image, the machine-generated original CVR, and the review board-modified CVR can be reviewed alongside each other.

PAPER TRAIL

The paper ballot or vote summary card also provides an audit trail that is available to counties in the event a recount, including manual recount, if required.

CENTRAL TABULATOR BATCH/BIN REPORTS

The DS450/DS850 central tabulator provides batch/bin reports with information about the ballots in each output bin at the time a batch is saved. The batch/bin reports contain ballot totals for a sort bin for the last batch saved. If ballots have been outstacked to the not-processed bin, the user can view or print the corresponding bin report on demand, which indicates why each ballot in the bin was outstacked. A user can manually print reports on demand or set batch/bin reports to print automatically when a scanned batch of ballots is saved. These reports can be maintained with the physical ballot batch to speed identification and retrieval for audits and recounts.

22 POST ELECTION AUDITS

22-2 RISK AUDIT

22.2 Describe the proposed SVS' ability to facilitate risk limiting audits including the creation of a cast vote record and the format of the cast vote record.

ES&S RESPONSE

The high ballot processing speed of the DS450/DS850 scanner and its ballot indexing capability make it a great solution for Risk Limiting Audits.

The DS450/DS850 can spray a unique sequenced serial number on every scanned ballot. This serial number reflects the file names of the digitized ballot image and the Cast Vote Record (CVR). The CVR is a record of exactly how the voter marked the ballot and its interpretation by the ballot scanner. Batch reports can be developed to associate and catalogue each ballot serial number with the batch. Ballots in the batch can be left in the order they were scanned and boxed, coupled with printed batch ballot manifests listing the contained ballots.

This batch identification, and the ballot serial number manifests can also be inserted into a database. The printed reports and the database make it easy to retrieve physical ballots as required for Risk Limiting Audits and that may be required for recounts. There are great benefits to this solution.

- ✔ Risk Limiting Audits are an independent method to validate an election's outcome and increase voter confidence.
- ✔ The DS450/DS850 provides a high-speed method to index each individual paper ballot at the same time the ballot is being scanned and processed for the initial tabulation. In the case of absentee / central tabulated ballots, this means there is no additional work.
- ✔ DS200 precinct ballots can be re-processed very quickly on the high-speed DS450/DS850, so they too can be indexed and included in the pool of ballots for the Risk Limiting Audit.

With the individual ballots indexed by the high speed DS450/DS850, the sample size for the Risk Limiting Audit can be reduced dramatically and therefore be very efficient. The DS450/DS850 scanner produces a digital ballot image and a Cast Vote Record (CVR) that is tied together via the index number sprayed on the ballot. This provides greater transparency and the potential for RLAs to be conducted on ballot images rather than physical ballots if desired.

Please see the included press release regarding risk limiting audits.



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FOR IMMEDIATE RELEASE

Risk-Limiting Audit Verifies Tight Warren County Election Results

Fully-auditable ES&S ExpressVote XL proven 100% accurate

OMAHA, Nebr. – March 2019 – A recent election in Warren County, New Jersey, proved the accuracy and full auditability of the Election Systems & Software (ES&S) [ExpressVote XL™](#). Election officials performed a risk-limiting audit (RLA) following a recent school bond vote, and the RLA verified the election results were 100 percent accurate.

The Oxford School Special Election took place on Jan. 22, 2019. It was the first time the county had used the newly purchased ExpressVote XL machines, which provide a voter-verifiable paper record and a detailed audit log. On Election Day, the votes – including those cast on the ExpressVote XL, and via mail-in ballots and provisional ballots – resulted in a tie.

“The state requires a risk-limiting audit of the voter-verified paper trail following every election,” said Bill Duffy, director of the Warren County Board of Elections. “In performing the audit, we pulled up the required number of random ballots and found no deviation within the election. Seeing those results gave us validation that our election results were correct.”

“This audit not only proves the accuracy of the ExpressVote XL in an official election, but also the ability to perform a risk-limiting audit that helps verify those election results,” said Joe McIntyre, ES&S customer relations manager. “We are committed to ensuring each and every vote is counted securely and accurately.”

The ExpressVote XL is a full-face universal voting system, displaying the full ballot on a 32-inch interactive screen. After making their selections, the voter casts their ballot producing a voter-verifiable paper record. The ExpressVote XL improves the Election Day experience for voters — allowing them to mark and tabulate their vote in one stop.

“The machines worked well on election day and the voters had no trouble using them,” said Duffy. “When you’re running an election, you want everybody to understand the equipment and you want it to be easy to use. We were very pleased with the equipment from ES&S.”

ABOUT ES&S: Election Systems & Software’s visionary approach to election equipment, software and solutions has helped improve the voting experience throughout North America for nearly 40 years. We are committed to developing integrated voting solutions that improve the marketplace and are flexible enough to meet multiple jurisdictions’ needs and voter preferences. *Learn more about ES&S at www.essvote.com and on Facebook at facebook.com/essvote.*

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For more information, contact:

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eRFP Proposal for the Georgia Secretary of State	
2019	
eRFP Name	
Statewide Voting System	
eRFP Number	
47800-SOS0000037	
Vendor Name	
Election Systems and Software, LLC	
Vendor Address	
11208 John Galt Blvd	
Omaha, NE	
68137	
Vendor Point of Contact and Contact Information	
Jeb Cameron	
jeb.cameron@essvote.com	
(678) 472-9895	

eRFP	47800-SOS0000037
Vendor	Election Systems and Software, LLC
	The purpose of the Cost Model for this eRFP is to provide a fixed price fee structure for initial purchase and a total cost of ownership for a ten (10) year period so that the Suppliers' responses can be compared equitably. At a minimum , each Supplier should provide the details for the line items requested for: the initial purchase requirements, installation, cost through December 31, 2021 as covered in the warranty period, and the remaining costs for the ten (10) year term of the contract.
	Each Supplier is encouraged to supplement this pricing information with additional details as a separate worksheet and/or line items to demonstrate a fully loaded cost. Pricing information should support and demonstrate the ability to cover all costs associated with the requirements and as detailed in your responses to the Mandatory Scored Questions.
	Note that the Cost Model Evaluation will include the initial ten (10) year term of the contract to ensure that the interest of the counties is represented in the proposal and for them to budget for future years. The initial cost through December 31, 2021 to fully purchase, distribute, implement, and train all GASOS employees and counties (fully loaded) will be considered under and constrained by the budget proposal as defined by the Georgia General Assembly.
	The initial cost through December 31, 2021 to fully purchase, distribute, implement, and train all GASOS employees and counties (fully loaded) will be constrained by the budget proposal as defined by the Georgia General Assembly.

eRFP	47800-SOS0000037
Vendor	Election Systems and Software, LLC
	eRFP
	This section will be used to capture the total contract cost for the initial equipment purchase, implementation, and training and will be included in the Cost Model Calculation.
	Post Warranty
	After the initial purchase and two year initial warranty period through December 31, 2021, the state and counties will need details for the additional cost to support the software via software and licensing fees and all equipment through applicable additional maintenance and warranty costs. This worksheet is to provide these details and will be included in the Cost Model Calculations.
	County Purchases
	After the initial purchase and two year initial warranty period through December 31, 2021, counties will need details for the additional cost for consumables to support elections for counties of various sizes. The cost model includes four sections to capture the cost for extra large counties (200,000 ballots), large counties (75,000 ballots), medium counties (35,000 ballots) and small counties (10,000 ballots) to be included in the Cost Model Calculations. There is an additional section for reference only that will be used as check sum and data point for consumables to support an election with 7,000,0000 ballots and will not be included in the Cost Model Calculations.
	Implementation Worksheet
	This worksheet is to be used to show your detailed implementation costs and will be a subset of the total of your implementation costs as captured in the eRFP tab. This worksheet will not be included in the Cost Model Calculations except as an item in the eRFP tab and line item total.
	Cost Calcs
	The Supplier is to provide no information on this tab, it is to be calculated from the populated sections covered. The Supplier should confirm and check that the totals from the individual worksheets are accurately reflected.
	Additional Products and Services
	This worksheet will be used to capture future equipment purchases that may be independently made and pricing that could be used to create a Contract MSLA and will not be included in the Cost Model Calculations.

eRFP	47800-SOS0000037				
Vendor	Election Systems and Software, LLC				
	SVS components included in the eRFP	Qty	Price Per Unit	Total Price	Notes
	Election Management System (EMS) - Software & Hardware	1	1326085.00	1326085.00	All components needed for operation at state level and 159 counties
	Electronic Poll Book Management System (EPDMS) - Software & Hardware	1	9750.00	9750.00	All components needed for operation at state level and 159 counties
	Electronic Poll Book (EPoll)	8000	1235.00	9880000.00	All components needed for operation
	Ballot Marking Device (BMD) (with ability to stand and provide privacy)	30050	3575.00	107428750.00	All components needed for operation
	Polling Place Scanner (PPS) and Ballot Box	3500	6080.00	21280000.00	All components needed for operation
	Central Scanning Device (CSD)				All components needed for operation
	Model DS200 Scanner	149	6080.00	905920.00	
	Model DS450 Scanner	12	53420.00	641040.00	
	Model DS850 Scanner	4	115600.00	462400.00	
	Implementation and Training Cost	1	5493097.00	5493097.00	All services needed for full implementation (Use Implementation Worksheet for Detail)
	Tabulation Hardware Discount	1	-24695000.00	-24695000.00	
		TOTAL:		122732042.00	

Optional Items	Qty	Price Per Unit
ExpressVote Activation Card Printer	1	725.00
Additional Standard 4GB Memory Device	1	105.00

eRFP	47800-SOS0000037									
Vendor	Election Systems and Software, LLC									
Post Warranty Cost										
Item Description		Units	Annual Software License and Support							
			2022	2023	2024	2025	2026	2027	2028	2029
Election Management System (EMS)	1	851655.00	851655.00	851655.00	851655.00	881530.00	881530.00	912420.00	912420.00	
Electronic Poll Bool Management System (EPDMS)	1	2250.00	2250.00	2250.00	2250.00	2329.00	2329.00	2411.00	2411.00	
Electronic Poll Book (EPoll)	8,000	800000.00	800000.00	800000.00	800000.00	824000.00	824000.00	856000.00	856000.00	
Ballot Marking Device (BMD)	30,050	1652750.00	1652750.00	1652750.00	1652750.00	1712850.00	1712850.00	1772950.00	1772950.00	
Polling Place Scanner (PPS)	3,500	280000.00	280000.00	280000.00	280000.00	290500.00	290500.00	301000.00	301000.00	
Central Scanning Device (CSD)	165	37120.00	37120.00	37120.00	37120.00	38447.00	38447.00	39806.00	39806.00	
TOTAL:		3623775.00	3623775.00	3623775.00	3623775.00	3749656.00	3749656.00	3884587.00	3884587.00	
									TOTAL:	29763586.00
Item Description		Units	Annual Hardware Maintenance Fees							
			2022	2023	2024	2025	2026	2027	2028	2029
Electronic Poll Book (EPoll)	8,000	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Ballot Marking Device (BMD)	30,050	2253750.00	2253750.00	2253750.00	2253750.00	2343900.00	2343900.00	2434050.00	2434050.00	
Polling Place Scanner (PPS)	3,500	385000.00	385000.00	385000.00	385000.00	399000.00	399000.00	413000.00	413000.00	
Central Scanning Device (CSD)	165	49230.00	49230.00	49230.00	49230.00	50970.00	50970.00	52758.00	52758.00	
TOTAL:		2687980.00	2687980.00	2687980.00	2687980.00	2793870.00	2793870.00	2899808.00	2899808.00	
									TOTAL:	22139276.00

eRFP	47800-SOS0000037
Vendor	Election Systems and Software, LLC

Assume No Stock on Hand															
Provide pricing for one Extra Large Sized County to provide Consumables for 200,000 ballots	Qty	Qty Required	Price Per Unit 2020	Total Price 2020	Price Per Unit increase (Fixed % or ≤ C.P.I.)	Total Price 2021	Total Price 2022	Total Price 2023	Total Price 2024	Total Price 2025	Total Price 2026	Total Price 2027	Total Price 2028	Total Price 2029	
Ballots	200000	200000	0.095	19000.00	2.00%	0.02	19380.00	19767.60	20162.95	20566.21	20977.54	21397.09	21825.03	22261.53	
Other Paper (e.g. printer tapes)	250	250	1.75	437.50	2.00%	0.02	446.25	455.18	464.28	473.56	483.04	492.70	502.55	512.60	
Ink				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL:				19437.50	TOTAL:	0.04	19826.25	20222.78	20627.23	21039.78	21460.57	21889.78	22327.58	22774.13	Total: 189605.63
Assume No Stock on Hand															
Provide pricing for one Large Sized County to provide Consumables for 75,000 ballots	Qty	Qty Required	Price Per Unit 2020	Total Price 2020	Price Per Unit increase (Fixed % or ≤ C.P.I.)	Total Price 2021	Total Price 2022	Total Price 2023	Total Price 2024	Total Price 2025	Total Price 2026	Total Price 2027	Total Price 2028	Total Price 2029	
Ballots	75000	75000	0.095	7125.00	2.00%	0.02	7267.50	7412.85	7561.11	7712.33	7866.58	8023.91	8184.39	8348.07	
Other Paper (e.g. printer tapes)	75	75	1.75	131.25	2.00%	0.02	133.88	136.55	139.28	142.07	144.91	147.81	150.76	153.78	
Ink				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL:				7256.25	TOTAL:	0.04	7401.38	7549.40	7700.39	7854.40	8011.49	8171.72	8335.15	8501.85	Total: 70782.06
Assume No Stock on Hand															
Provide pricing for one Medium Sized County to provide Consumables for 35,000 ballots	Qty	Qty Required	Price Per Unit 2020	Total Price 2020	Price Per Unit increase (Fixed % or ≤ C.P.I.)	Total Price 2021	Total Price 2022	Total Price 2023	Total Price 2024	Total Price 2025	Total Price 2026	Total Price 2027	Total Price 2028	Total Price 2029	
Ballots	35000	35000	0.095	3325.00	2.00%	0.02	3391.50	3459.33	3528.52	3599.09	3671.07	3744.49	3819.38	3895.77	
Other Paper (e.g. printer tapes)	40	40	1.75	70.00	2.00%	0.02	71.40	72.83	74.28	75.77	77.29	78.83	80.41	82.02	
Ink				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL:				3395.00	TOTAL:	0.04	3462.90	3532.16	3602.80	3674.86	3748.35	3823.32	3899.79	3977.78	Total: 33117.00
Assume No Stock on Hand															
Provide pricing for one Small Sized County to provide Consumables for 10,000 ballots	Qty	Qty Required	Price Per Unit 2020	Total Price 2020	Price Per Unit increase (Fixed % or ≤ C.P.I.)	Total Price 2021	Total Price 2022	Total Price 2023	Total Price 2024	Total Price 2025	Total Price 2026	Total Price 2027	Total Price 2028	Total Price 2029	
Ballots	10000	10000	0.095	950.00	2.00%	0.02	969.00	988.38	1008.15	1028.31	1048.88	1069.85	1091.25	1113.08	
Other Paper (e.g. printer tapes)	10	10	1.75	17.50	2.00%	0.02	17.85	18.21	18.57	18.94	19.32	19.71	20.10	20.50	
Ink				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Other Required Consumables				0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
TOTAL:				967.50	TOTAL:	0.04	986.85	1006.59	1026.72	1047.25	1068.20	1089.56	1111.35	1133.58	Total: 9437.64
Assume No Stock on Hand															
Consumables for running one statewide election with 7 million ballots on the proposed SVS				Notes											
	Qty	Price Per Unit	Total Price												
Ballots	7000000	0.095	665000.00	Assume no spoilage											
Other Paper (e.g. printer tapes)	3500	1.75	6125.00												
Ink	TBD														
Other Required Consumables	TBD														
Other Required Consumables	TBD														
Other Required Consumables	TBD														
Other Required Consumables	TBD														
TOTAL:				671125.00											

Quantity	11	2085661.94
Quantity	41	2902064.60
Quantity	50	1655850.22
Quantity	57	537945.70
TOTAL:	159	7181522.45

47800-SOS0000037

Election Systems and Software, LLC

Fill out all labor types applicable

Job Position	FTE, Supplier or Subcontractor Name	Daily Rate During Implementation	Estimated Project Days (through complete State rollout, installation of all equipment and training for all counties)	Cost Total
Project Manager	Holly Richardson	1700.00	119	202300.00
Account Manager (Lead) 1	Kim Carlisle	1700.00	119	202300.00
Account Manager 2	Staci Jackson	1700.00	92	156400.00
Account Manager 3	Lee Headspeth	1700.00	92	156400.00
Regional Coordinators (12 total)	TBD	1000.00	828	828000.00
			Total:	1545400.00

Implementation and Training Cost for Full SVS	Unit Price (Specify Unit Type)	Units	Total Price
FTE's - (Labor Rates captured above)			1545400.00
Project Management (if not included in Labor Rate above)			0.00
Software Programming and Configuration (if not included in Labor Rate above)			0.00
Application Interface Modeling and Development (if not included in Labor Rate above)			0.00
Consulting (if not included in Labor Rate above)			0.00
Travel (Estimated Using State Travel Per Diem and Travel Guidelines)			0.00
Sub contractors (if not included in Labor Rate above)			0.00
Ballot building services for all elections through June 30, 2021	1000.00	522	522000.00
Distribution cost: Warehouse, Acceptance, and Distribution			689497.00
Pre-Acceptance Assembly/Setup, and Post-Acceptance Repackaging (Based On Quantities Proposed in RFP)	1175.00	1725	2026875.00
Election Day Support- State Level On Site	4675.00	3	14025.00
Election Day Support- County Level On Site (Regional)	4675.00	24	112200.00
Election Day Support- State Level Remote			0.00
Election Day Support- County Level Remote (Single County)			0.00
Training Fees (if not included in Labor Rate above)	1700.00	343	583100.00
		TOTAL:	3947697.00

eRFP	47800-SOS0000037	
Vendor	Election Systems and Software, LLC	
	RFP TOTAL COST ANALYSIS	
	Cost Model	
		System Total 122732042.00
		eRFP Total 122732042.00
	Sample (159 County Purchase)	
		System Total 11070151.69
		Consumables Total 7181522.45
		County Total 18251674.14
	Total Cost Model:	140983716.14
	8 Years Post Warranty (County and State)	
		License Fees Total 29763586.00
		Maintenance Fees Total 22139276.00
	7,000,000 Ballots (For Benchmark/Assessment Purpose Only)	
		Consumables Total 671125.00

eRFP	47800-SOS0000037															
Vendor	Election Systems and Software, LLC															
	Systems	Qty	Price Per Unit 2021	Total Price 2021	Price Per Unit increase (Fixed % or ≤ C.P.I.)	Total Price 2022	Total Price 2023	Total Price 2024	Total Price 2025	Total Price 2026	Total Price 2027	Total Price 2028	Total Price 2029	Total Price 2030		
	SAMPLE	100	10.00	1000.00	1.23%	0.01	1012.30	1024.75	1037.36	1050.12	1063.03	1076.11	1089.34	1102.74		
	Ballot Marking Device - (Sample Purchase of 100)	100	3575.00	357500.00	2.00%	0.02	364650.00	371943.00	379381.86	386969.50	394708.89	402603.06	410655.13	418868.23		
	BMD Stand (if required)			0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Privacy Shield/Solution (if required)			0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Polling Place Scanner, Stand, and Ballot Box - (Sample Purchase of 100)	100	6080.00	608000.00	2.00%	0.02	620160.00	632563.20	645214.46	658118.75	671281.13	684706.75	698400.89	712368.90		
	Central Scanning Device															
	Model DS450 Scanner	1	53420.00	53420.00	2.00%	0.02	54488.40	55578.17	56689.73	57823.53	58980.00	60159.60	61362.79	62590.04		
	Model DS850 Scanner	1	115600.00	115600.00	2.00%	0.02	117912.00	120270.24	122675.64	125129.16	127631.74	130184.38	132788.06	135443.82		
	CSD Stand (if required)			0.00	0.00%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Poll Book - (Sample Purchase of 100)	100	1235.00	123500.00	2.00%	0.02	125970.00	128489.40	131059.19	133680.37	136353.98	139081.06	141862.68	144699.93		
	Peripheral Equipment (if required)			0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
	Ballot on Demand															
	Hardware and Software	1	6470.00	6470.00	2.00%	0.02	6599.40	6731.39	6866.02	7003.34	7143.40	7286.27	7432.00	7580.64		
	Ballot On Demand Blank Sheet	1	0.10	0.10	2.00%	0.02	0.10	0.10	0.11	0.11	0.11	0.11	0.11	0.12		
	Central Ballot Printing															
	11", 14", 17" Black and White Pre-Printed Ballot	1	0.25	0.25	3.00%	0.03	0.26	0.27	0.27	0.28	0.29	0.30	0.31	0.32		
	19" Black and White Pre-Printed Ballot	1	0.29	0.29	3.00%	0.03	0.30	0.31	0.32	0.33	0.34	0.35	0.36	0.37		
	11", 14", 17" Pre-Printed Ballot with Color	1	0.28	0.28	3.00%	0.03	0.29	0.30	0.31	0.32	0.32	0.33	0.34	0.35		
	19" Pre-Printed Ballot with Color	1	0.32	0.32	3.00%	0.03	0.33	0.34	0.35	0.36	0.37	0.38	0.39	0.41		
TOTAL:			1264491.24	TOTAL:		0.27	1289781.08	1315576.71	1341888.26	1368726.03	1396100.57	1424022.59	1452503.06	1481553.13	TOTAL:	11070151.69

- Notes:
- 1. The above pricing for a Ballot Marking Device, Polling Place Scanner, Central Scanning Device and Poll Book includes a two (2) year warranty.
 - 2. The Ballot On Demand printer pricing includes a Compact Printer with a Laptop, a five (5) year hardware warranty, and a one (1) year software warranty with Single and Multiple Request Capability.
 - 3. Customer is responsible for purchasing Ballot On Demand blank ballot stock and consumables. Ballot On Demand Election Set-Up Fees are not included in above pricing.
 - 4. Central Ballot Printing Pricing does not include folding. If requested, folding for all size ballots is an additional \$0.03 per ballot.
 - 5. Discounting may apply and unit prices do not include shipping and handling.
 - 6. There appears to be a formula error in the cost calculations for Total Price 2022 and 2023.



TAX COMPLIANCE

INSTRUCTIONS TO SUPPLIERS

Please complete the following information:

- ✓ Supplier's Name: Election Systems & Software, LLC
- ✓ Physical Location Address: 11208 John Galt Blvd., Omaha, NE 68137
- ✓ Federal Identification Number (FEI): 47-0617567
- ✓ Have you ever been registered in the State of Georgia? Yes
- ✓ If so, please provide the following information, if applicable:
 - State Taxpayer Identification Number (STI):
 - Sales and Use Tax Number: 175-837263
 - Withholding Tax Number: 3024254-QT
- ✓ What type of service will you perform? Voting System Solution delivery, installation, and implementation
- ✓ Will you sell any tangible personal property or goods? No
- ✓ Supplier's Affiliate's Name: N/A
 - FEI:
 - STI:
 - Sales and Use Tax Number:
 - Withholding Tax Number:

If there is more than one affiliate, please attach a separate sheet listing the information above.

- ✓ Person responsible for handling supplier's tax issues (such as the CFO, the company tax officer, etc.):
 - Name: Richard J. Jablonski, Vice President, Finance
 - Telephone Number: 402-970-1100
 - E-mail Address: djjablonski@essvote.com

NOTICE TO SUPPLIER:

In the event the supplier is considered for contract award, the information provided in the form will be submitted by the State Entity to the Georgia Department of Revenue ("DOR") for a determination as to whether the supplier is a "prohibited source" (as defined by O.C.G.A. §50-5-82) or whether there are any other outstanding tax issues. MISSING, INCOMPLETE, OR ERRONEOUS DATA MAY DELAY OR PROHIBIT VERIFICATION OF YOUR ELIGIBILITY FOR CONTRACT AWARD. NO PROHIBITED SOURCE MAY RECEIVE CONTRACT AWARD; THEREFORE, YOU ARE STRONGLY ENCOURAGED TO CHECK YOUR TAX STATUS NOW AND RESOLVE ANY OUTSTANDING TAX LIABILITIES AND/OR MISSING TAX RETURNS.

STATE ENTITY: Please submit this form via email to DOR at tsd-state-contractors@dor.ga.gov for processing in accordance with the *Georgia Procurement Manual*.

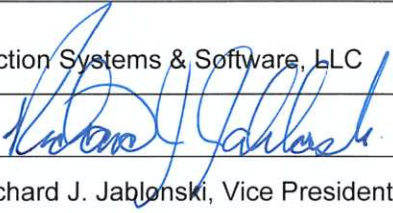


**ATTACHMENT R
CERTIFICATE OF NON-COLLUSION**

By responding to this solicitation, the supplier understands and agrees to the following:

1. That the submitted response constitutes an offer, which when accepted in writing by the State Entity, and subject to the terms and conditions of such acceptance, will constitute a valid and binding contract between the undersigned and the State Entity; and
2. That the supplier has read the specifications and requirements shown or referenced in the solicitation and that the supplier's response is made in accordance with the provisions of such specifications and requirements except as expressly stated otherwise in the supplier's response; and
3. That the supplier guarantees and certifies that all items included in the supplier's response meet or exceed any and all such stated specifications and requirements of the solicitation except as expressly stated otherwise in the supplier's response; and
4. That, if awarded a contract, the supplier will deliver goods and/or services that meet or exceed the specifications and requirements of the solicitation except as expressly stated otherwise in the supplier's response; and
5. That the response submitted by the supplier shall be valid and held open for a period of **one hundred and twenty (120) days (or such other time period as identified in the solicitation)** from the final solicitation closing date and that the response may be held open for an additional period of time subject to the supplier's consent; and
6. That the supplier's response is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a response for the same materials, supplies, equipment, or services and is in all respects fair and without collusion or fraud. The supplier understands and agrees that collusive bidding is a violation of state and federal law and can result in fines, prison sentences, and civil damage awards; and
7. That the provisions of the Official Code of Georgia Annotated, Sections 45-10-20 et seq. have not been violated and will not be violated in any respect.

DO NOT MODIFY THE BID/PROPOSAL CERTIFICATION TERMS IN ANY WAY. THIS FORM MUST BE COMPLETED, SIGNED AND SUBMITTED WITH YOUR RESPONSE.

Contractor's Full Legal Name: (PLEASE TYPE OR PRINT)	Election Systems & Software, LLC
Authorized Signature:	
Printed Name and Title of Person Signing:	Richard J. Jablonski, Vice President of Finance
Date:	April 17, 2019
Company Address:	11208 John Galt Blvd. Omaha, NE 68137
FAX Number:	402.970.1291
Email Address:	djjablonski@essvote.com
*This table must be completed in its entirety by the supplier.	

Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of (name of public employer) has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

152114

Federal Work Authorization User Identification Number

3/30/2016

Date of Authorization

Election Systems & Software

Name of Contractor

Statewide Voting System

Name of Project

State of Georgia Secretary of State

Name of Public Employer

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on April 4, 2019 in Omaha (city), NE (state).

[Signature]
Signature of Authorized Officer or Agent

Deborah D. Bickel, VP of Finance
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME

ON THIS THE 4th DAY OF April, 2019.

[Signature]
NOTARY PUBLIC

My Commission Expires:

January 15, 2020

State of Nebraska - General Notary
TIMOTHY J. HALLETT
My Commission Expires
January 15, 2020



ATTACHMENT V

CONTRACT EXCEPTION FORM

Instructions: Please provide the contract exception (s) and proposal to either reject or modify the term as presented.

Page Number	Contract Section Number	Item	CONTRACT EXCEPTION
2	2.1.1 Solution Order	2.1.1(v) – Definition of Maintenance Services	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.1.1 <u>Solution Order</u>. For the ordering of a Solution from Contractor, any State Entity and Contractor will, subject to mutual agreement by both parties, execute a written order (each an "Solution Order"). Each Solution Order shall: (a) be substantially in the form of Exhibit A hereto; (b) be consecutively numbered with respect to all prior Solution Orders; and (c) include, where applicable and available at that time, the following information:</p> <p>(i) the services described in this Agreement, including the Configuration Services, Implementation Services, Maintenance Services, Training Services and other services provided by Contractor under this Agreement (the "Services"), which are being purchased by the applicable State Entity;</p> <p>(ii) licenses and/or sublicenses to the application software (the "Application Programs"), and to the custom programming application software (the "Special Programs") required in connection with the Services;</p> <p>(iii) the software support services to be provided by Contractor for the Application Programs and the Special Programs (collectively, the "Support Services");</p> <p>(iv) the hardware and equipment Deliverables to be provided by Contractor hereunder, including any computer systems, accessories, supplies, parts, related Documentation, and Revisions thereto to be provided by Contractor required for the operation of the Solution (the "Equipment") and the licenses and/or sublicenses to the operating software for such Equipment granted by Contractor (the "Operating Programs");</p> <p>(v) the maintenance <u>and repair</u> services for the Equipment <u>as set forth in Contractor's Extended Warranty Agreement</u> (collectively, the "Maintenance Services");</p>

Page Number	Contract Section Number	Item	CONTRACT EXCEPTION
			<p>(vi) the date by which the Solution must be fully delivered;</p> <p>(vii) the particular State Site to which such Solution must be delivered; and</p> <p>(viii) the price applicable to the items set forth on such Solution Order.</p> <p>The terms "Application Programs," "Special Programs," and "Operating Programs" are collectively referred to as the "Software." In the event of a conflict between the terms of this Agreement and the terms of any Solution Order, except with respect to any provision of this Agreement which explicitly states that it may be modified or superseded by an analogous provision in a Solution Order, the terms of this Agreement shall control. The terms and conditions of each Solution Order will apply solely with respect to the Solution purchased under such Solution Order and shall not be deemed to modify this Agreement.</p>
3	2.1.2 Additional Products and Services	Additional Product and Services to be provided at no cost.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.1.2 <u>Additional Products and Services</u>. As further provided in Section 2.3 and other provisions describing the Solution, it is acknowledged that Contractor is obligated as part of the Solution to provide the State Entities from time to time additional services, application software, custom programming application software, operating software, software support services, equipment and equipment maintenance services, at no charge <u>or at such fees as mutually agreed upon by the parties</u>, which are then being provided by Contractor and are not specifically covered by this Agreement of an existing Solution Order or Services Order. Such additional items, if provided as part of the Solution, will automatically be considered within the terms "Services," "Application Programs," "Special Programs," "Operating Programs," "Support Services," "Equipment," and "Maintenance Services". shall automatically be amended to include all such additional services, application software, custom programming application software, operating software, software support services, equipment, and equipment maintenance services, as the case may be, which are provided by Contractor to State.</p>
3	2.1.5 Shipment, Title and Risk of Loss	Contractor's responsibility to replace any Equipment or hardware that does not pass Acceptance Testing.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.1.5 <u>Shipment, Title and Risk of Loss</u>. For each piece of Equipment or other Solution hardware component, Contractor shall pass title and ownership of such Solution component to State upon State's payment in full for such Solution component. Upon State's payment in full for each Solution, Contractor will deliver a bill of sale for each Solution component to State, as applicable. Contractor guarantees that State shall acquire good and clear title to the Equipment and other Solution hardware components being purchased hereunder, free and clear of all liens and encumbrances. Contractor shall arrange for shipment, at Contractor's expense, of Equipment by a mutually acceptable common carrier F.O.B. to the applicable State Site, or other delivery location specified in the Solution Order, at a mutually agreeable time. Risk of loss for such Equipment shall pass to State upon proper delivery at the designated destination. There shall be no additional charge to State for shipping, delivery or insurance beyond the prices set forth in the Solution Order. In the event of damage to any Equipment or hardware during transit or if Contractor or its designee delivers Equipment or hardware that does not pass Acceptance Testing, then Contractor will <u>repair or</u> replace such Equipment or hardware at Contractor's expense, including covering all shipping costs associated with returning such items to Contractor.</p>

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4	2.1.6 Inspection	Contractor's responsibility to replace any Equipment or hardware that does not pass Acceptance Testing.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.1.6 <u>Inspection</u>. In accordance with the Installation Plan and the requirements for the Acceptance Testing Plan, all Equipment shall be inspected as follows: (i) following arrival of the initial deliveries at the central warehouse designated by the State and (ii) for the same deliveries, when forwarded to the State Site (or any subsequent delivery made directly to the State Site(s)). Prior payments shall not be considered as waiving any right of testing or inspection of the State Entities under this Agreement. Determination by a State Entity that Equipment or component has passed Acceptance Testing is without prejudice to any other rights or remedies that such State Entity may have with respect to any subsequently uncovered non-compliance, defect, or non-conformity. Any State Entity may return any Equipment or component of the Solution to Contractor that it determines not to have passed Initial Testing or Acceptance Testing for <u>repair or</u> replacement, and such returns shall be at Contractor's expense including as relates to transportation charges. Any return made by a State Entity for failure of the Equipment or any component of the Solution to pass the Acceptance Testing shall not be affected by any determination by State that such Equipment or component passed Initial Acceptance Testing. <u>Provided Contractor is unable to repair any rejected Equipment or any component of the Solution on-site and such Equipment or any such component of the Solution must be returned to Contractor.</u> If Contractor fails to arrange shipment and pickup of such rejected Equipment by a mutually acceptable common carrier (F.O.B. the State Site from which such rejected items will be dispatched) and redeliver appropriate replacement Equipment or components sufficient to cure the defect prompting the rejection and otherwise fully functional in accordance with the requirements of this Agreement, within thirty (30) days of the applicable State Entity's notification of such rejection, the State Entity shall be entitled to, at its option: (a) rescind the applicable Solution Order and receive a payment from Contractor of the "Standard Liquidated Damages" as defined below; (b) accept the rejected Equipment or component at an equitable price reduction agreed by the parties; or (c) demand specific performance. "Standard Liquidated Damages" shall mean and include (1) all fees actually paid by the State Entity (and not previously refunded) towards the purchase price for Equipment set forth in the rescinded Solution Order as of the date of such payment of Standard Liquidated Damages; and (2) the actual expenses incurred by the State Entity following execution by the parties of the applicable Solution Order related to such Solution Order.</p>
4	2.3 Revisions; Upgraded Solution	2.3.1 Contractor's responsibility for Revisions.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.3.1 If Contractor makes any revision, modification, enhancement, improvement or otherwise updates the Solution, the <u>Contractor Licensed Software</u>, any component thereof, or code used therein to include any patches, upgrades, updates, new versions, substitutions, replacements, and other modifications, improvements and enhancements, including through the introduction of new products that have comparable purpose and functionality as the <u>Contractor Licensed Software provided with the Solution</u> used by the State Entities (collectively the "Revisions"), such Revisions will be made available to the State Entities, and, if approved by the State, installed and implemented by Contractor, on a no-charge basis at fees to be mutually agreed upon by the parties (with a corresponding credit for the amortized cost of the component being replaced by the accepted Revision) and will be deemed to be part of the <u>Solution Contractor Licensed Software. The State or State Entities are responsible for obtaining any upgrades or purchases of Third Party</u></p>

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			<p><u>Materials required to operate the Revisions as well as the cost of any replacements, retrofits or modifications to the Equipment which may be necessary in order to operate the Revisions. All Revisions shall be deemed to be Contractor Licensed Software for purposes of this Agreement upon delivery. The State or State Entities may install the Revisions in accordance with Contractor's recommended instructions or may request that Contractor install the Revisions at fees to be mutually agreed upon by the parties. Contractor may charge the State or State Entities at its then-current rates to (i) train the State of State Entities on the Revisions, if such training is requested by the State of State Entities or (ii.) provide maintenance and support on the Contractor Licensed Software that is required as a result of the State of State Entities failure to timely or properly install a Revision.</u> Contractor shall keep State informed of any potential Revisions being considered by Contractor, Revisions which may be necessary to keep the Solution <u>Contractor Licensed Software</u> relevant, and any developments in the industry or election practices generally that could adversely affect the Solution <u>Contractor Licensed Software</u> or render it obsolete including by: (i) meeting with State quarterly throughout the twenty-four (24) months immediately following the Effective Date and then twice in each of the successive twelve (12) month period remaining during the Term to discuss the same and (ii) providing State with a detailed comparison of the Solution as would exist after any proposed Revisions (the "Upgraded Solution") with the original Solution hereunder. The Upgraded Solution and the Revisions contained therein shall be subject to State's prior review and approval and State may conduct such testing and evaluations of the same as it determines to be necessary. If the State declines to use the Revisions or the Upgraded Solution, Contractor will remain obligated to support the existing version of the Solution during the Term. For the avoidance of doubt, except as otherwise specified in <u>this Section 2.3.1 or</u> Section 2.3.2, Contractor shall provide all Revisions occurring at any time during the Term at no additional cost to, and without increases to any existing fees payable hereunder by, any State Entities.</p>
5	2.3 Revisions; Upgraded Solution	2.3.2 Contractor's responsibility for Major Revisions.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.3.2 If Contractor makes Revisions at the request of the State which are major in nature and are required as a result of a change to Applicable Laws of the State of Georgia as relates to elections (e.g. a change to a ranked-choice voting system) ("Major Revisions") may be accompanied by an increased fee as mutually agreed upon by the parties at the time State requests such Major Revisions in accordance with the Change Request procedure described in Section 5.4. <u>Such increased fees may include, but not be limited to, the cost of Third Party Materials required to operate the Major Revisions, the cost of any replacements, retrofits or modifications to the Equipment that may be developed and offered by Contractor in order for such Equipment to remain compliant with Applicable Laws and regulations and the costs of designing, developing and/or certification by applicable federal and state authorities of such State of Georgia mandated Major Revisions. In addition, State Entities shall pay Contractor the entire costs incurred for design, development and certification of any Revision or Major Revision which is required due to a change in local law or is otherwise requested or required by the State Entities.</u> Notwithstanding the foregoing, Contractor acknowledges and agrees that any Revisions or other changes to the Solution that are required due to changes in federal law, regulation, or standard shall not be accompanied by an increased fee.</p>
5	2.5 Interoperability; Integration	Contractor's obligations to integrate its Solution with other devices.	<p>Reject []; Accept if modified [X] as follows:</p> <p>2.5 <u>Interoperability; Integration.</u> Requirements of the Solution include full integration with other devices and applications to be specified</p>

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			in the applicable Schedules. Within industry standards <u>and subject to applicable federal and state certification rules and regulations</u> , State reserves the right to select the features, tools, accessories and companion applications to be used in or with the Solution. Contractor agrees to work with and support the other contractors who offer such products and solutions. State reserves the right to approve system configuration, architecture, or functionality that affects the choice or use of the third-party products.
6	3.1.1 Grant of License	Contractor's license requirements for the Contractor Licensed Software.	<p>Reject []; Accept if modified [X] as follows:</p> <p>3.1.1 Grant of License. Except as provided elsewhere in this Agreement or an applicable Solution Order, Contractor hereby grants to State a non-exclusive, perpetual, irrevocable, and worldwide license for State and State Entities <u>bona fide full time, part time or temporary employees as well as State Contractors</u> to use, install, execute, store, and display the object version of all Contractor Licensed Programs in connection with State's use, operation, or support of the Solution and in accordance with all the terms and conditions of this Agreement. In addition, State, the other State Entities, and/or State Contractors, subject to the restrictions and processes set forth herein, shall be permitted, in connection with the use, operation, or support of the Solution, to: (a) use the Contractor Licensed Programs at any State Site; (b) make and use [XX] copies, per State Site, of the Contractor Licensed Programs;¹ (c) use the Contractor Licensed Programs for to fulfill the Mandatory Requirements including by providing access at all applicable State Sites to the Contractor Licensed Programs, other than by remote connection; and (d) use and/or copy of the Contractor Licensed Programs for the purpose of creating and using training materials relating to the Contractor Licensed Programs for internal purposes, which training materials may include flow diagrams, system operation schematics, or screen prints from operation of the Contractor Licensed Programs. <u>Notwithstanding the foregoing, the State, State Entities or State Contractors shall not take any of the following actions with respect to the Contractor Licensed Software or Documentation:</u></p> <p>a. <u>Reverse engineer, decompile, disassemble, re-engineer or otherwise create, attempt to create, or permit, allow or assist others to create, the source code or the structural framework for part or all of the Contractor Licensed Software;</u></p> <p>b. <u>Cause or permit any use, display, loan, publication, transfer of possession, sublicensing or other dissemination of the Contractor Licensed Software or Documentation, in whole or in part, to or by any third party without Contractor's prior written consent;</u></p> <p>c. <u>Cause or permit any change to be made to the Contractor Software without Contractor's prior written consent; or</u></p> <p>d. <u>Allow a third party to cause or permit any copying, reproduction or printing of any output generated by the Contractor Licensed Software (except finished ballots by ballot printers selected by State or State Entities) in which Contractor owns or claims any proprietary intellectual property rights (e.g., copyright, trademark, patent pending or patent), including, but not limited to, any ballot shells or ballot code stock,</u></p>

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7	4.1.3 Attachments to Solution	Contractor's obligations with respect to attachments to the Solution	<p>Reject []; Accept if modified [X] as follows:</p> <p>4.1.3 <u>Attachments to Solution</u>. Subject to the other terms of this Section, in the event State provides Contractor with Functional Requirements for a certain Solution (and obtains confirmation of approval thereof as required below), State shall be entitled to install any attachment, feature, or device to, or install any Licensed Programs, on such Solution without affecting Contractor's representations and warranties hereunder, if within a reasonable period of time not to exceed thirty (30) business days <u>or such additional time as may be mutually agreed upon by the parties</u> after receipt from State of notice of its intent to do so (such notice to be addressed to the Contractor Relationship Manager and delivered via return receipt mail), Contractor provides written notice to State either confirming compatibility with the Solution of the such items or stating reasonable grounds upon which it concludes such attachment, feature, device, modification, change, enhancement, upgrade, or addition will adversely affect its obligations, including any warranty or representation hereunder. Contractor shall use reasonable efforts to respond to any such request. Any request for such confirmation from State as provided under this Section that is not responded to by Contractor, <u>within thirty (30) days of such request</u>, shall be deemed an acceptance by Contractor of the compatibility of such items with the Solution. If after receipt of the Contractor notice advising State of Contractor's conclusion that such attachments, features, or devices will adversely affect its obligations <u>and the</u> State employs such attachment, feature, device, modification, change, enhancement, upgrade, or addition, Contractor shall not be liable for those representations and warranties that it notified State it reasonably concluded would be adversely affected as identified in the detailed notice <u>nor shall Contractor be liable for any claims, damages, losses, liabilities costs, expenses and the like arising out of or related to the State's decision to employ such attachment, feature, device, modification, change, enhancement, upgrade, or addition.</u></p>
7	4.2 Implementation Services	Contractor's obligation with respect to the implementation services.	<p>Reject []; Accept if modified [X] as follows:</p> <p>4.2 <u>Implementation Services</u>. After delivery, if requested by State, Contractor shall install, configure and/or implement the Solution (the "Implementation Services") (a) in accordance with the implementation schedule attached to the applicable Solution Order <u>as mutually agreed upon by the parties</u> (the "Implementation Schedule") and (b) for the fees set forth in the applicable Solution Order. For the avoidance of doubt, State will only be responsible for those fees reflected in the applicable Solution Order and any additional fees relating directly or indirectly to Implementation Services shall require mutual agreement of the parties. Upon completion of the Implementation Services, each Solution shall be tested in accordance with the requirements of Section 9.</p>
8	4.3 Extended Warranty	Contractor's obligations for warranty and post warranty services.	<p>Reject []; Accept if modified [X] as follows:</p> <p>4.3 <u>Extended-Warranty</u>. Contractor shall provide <u>an initial warranty</u> for a period of two (2) years from the Effective Date <u>(the "Initial Warranty")</u>, <u>and thereafter</u> After expiration of the Initial Warranty, Contractor shall <u>provide extended warranty</u> for so long as requested by each State Entity <u>(the "Extended Warranty")</u>; a "total care solution" for the Solution, which, in addition to basic commitments contained in this Agreement, will include service guarantees sufficient to keep the Solution in good operating order in accordance with the Requirements at all times <u>(the "Extended Warranty")</u>. The <u>Initial Warranty and</u> Extended Warranty will include all <u>repair and</u> Maintenance Services, <u>to include</u> telephone and online support,</p>

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			<p>remote installation assistance, troubleshooting, "break-and-fix," replacement of Equipment and components, supply of spare Equipment and components, and other services <u>as well all fees associated with Contractor's performance of the Maintenance Services; all</u> to be described by Contractor in an <u>"eExtended wWarranty aAgreement"</u> to be prepared by Contractor and submitted to State prior to execution of this Agreement, which agreement, as approved by the State shall be incorporated into this Agreement. Contractor will, at its own expense, upon receipt of written notice from a State Entity of an <u>Initial Warranty or</u> Extended Warranty claim, <u>as applicable</u>, make all adjustments and modifications necessary to cure any defect or nonconformity affecting the Solution such that it is fully functional in conformity with the specifications and requirement set forth herein. Contractor shall immediately commence correction of all <u>Initial Warranty and</u> Extended Warranty claims, <u>as applicable</u>, made pursuant to this Section 4.3. For the avoidance of doubt <u>and except as set forth in Contractor's Extended Warranty Agreement</u>, the parties acknowledge and agree that no <u>additional</u> fees, charge, or other costs associated with maintenance, repair, modification, adjustment, replacement, or other remediation of the Solution will be owed by any State Entity in connection with the Extended Warranty. The <u>Initial Warranty and</u> Extended Warranty shall be <u>"all-inclusive," set forth in Contractor's Extended Warranty Agreement</u> and cover the maintenance, <u>repair</u> and support of the Solution and Equipment and the maintenance, <u>repair</u> and administration of the Contractor owned and operated central processing units and facilities needed to provide the State Entities with the use of the Solution and Services. If the parties agree that the State or any of its personnel shall perform any services relating to an <u>Initial Warranty or</u> Extended Warranty claim on behalf of Contractor, State shall receive a credit against the next Milestone Payment to the extent of the services so performed by the State. Notwithstanding the administration of any services by a State Entity on behalf of Contractor in connection with the maintenance or support of the Solution, Contractor shall at all times be responsible <u>for</u> the integrity and quality of all Services and the Solution.</p>
9	5.3 Contractor Requested Change	Contractor's ability to include additional charges in Contractor Change Requests.	<p>Reject [] ; Accept if modified [X] as follows:</p> <p>5.3 <u>Contractor Requested Change</u>. If the Change Request is submitted by Contractor to State, the Change Request shall, to the extent known at the time of the request, indicate schedule changes and any other items Contractor believes the Change Request is likely to impact (each an "Impact Analysis"). If a complete and final Impact Analysis cannot be specified, or if aspects of the Impact Analysis cannot be determined at the time of the request, Contractor shall so indicate on the applicable Change Control Form, including a detailed explanation of the basis of such inability of Contractor to so determine. State shall indicate its acceptance or rejection of the Change Request and/or provide a counter-proposal to the Impact Analysis stated thereon via a Change Response. <u>Unless otherwise mutually agreed upon by the parties in the applicable Change Request</u>, <u>in</u> no event shall any Contractor-submitted Change Request include any additional charges or purport to increase the any of the fees payable by a State Entity hereunder. A Contractor submitted Change Request shall not become a Change Order unless such Change Request (and its related Impact Analysis) are expressly accepted by State as evidenced by its signature on the applicable Change Control Form.</p>

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14	Contractor Proposed New Provision. 7.5 Applicable Law – State and State Entities	The State and State Entities obligations to maintain an hardened network for the Contractor Election Management System.	<p>Reject []; Accept if modified [] as follows:</p> <p><u>7.5 Applicable Law – State and State Entities. The State and State Entities shall obey and abide by all Applicable Laws, regulations, ordinances and other rules of the United States of America, the State of Georgia and all local jurisdictions located in the State of Georgia. In addition, the Equipment and Software, including all components will be provided to the State and State Entities with a hardened network for the election management software (“EMS”), in accordance with the guidelines of the United States Election Assistance Commission (“EAC”). Contractor shall not be responsible for those claims, damages, losses, judgments, penalties, costs, amounts paid in settlement or fees, which are directly related to the State or State Entities failure to maintain the network on which the EMS is installed in a hardened configuration in accordance with the guidelines of the EAC.</u></p>
14	8.2.1 Generally	Contractor's obligations to pay liquidated damages and/or credits	<p>Reject []; Accept if modified [X] as follows:</p> <p><u>8.2.1 Generally. If Contractor or any Contractor Solution Partner fails to meet any Performance Level or fails to perform its other obligations hereunder, Contractor shall immediately: (a) investigate and report to State on the causes of the failure; (b) prepare an action plan for State's approval to correct the failure; (c) advise State, as and to the extent requested by State, of the status of remedial efforts being undertaken with respect to such failure; (d) correct the failure and begin meeting the Performance Levels; and (e) take appropriate preventive measures so that the failure does not recur. In addition, failures to meet a Performance Level shall entitle State to receive liquidated damages and/or credits (as applicable) from Contractor, as mutually agreed upon by the parties and set forth provided in the applicable Services Order.</u></p>
14	8.2.2 Software	Contractor's obligation to maintain Software free from defects.	<p>Reject []; Accept if modified [X] as follows:</p> <p><u>8.2.2 Software. All Software delivered by Contractor to any State Entity shall be free from any defects in design, material, or workmanship during the Extended Warranty period and so long as the State and/or State Entities maintain a software maintenance and support agreement with Contractor. In the event that any of the Software is found by the Contractor, the State, any other State Entity or governmental agency, or any court having jurisdiction to contain a defect, to have a serious quality or performance deficiency, or not to be in compliance with any standard or requirement so as to require or make advisable that such Software be reworked or recalled, the Contractor will promptly communicate all relevant facts to the State Entity and undertake all corrective actions, including those required to meet all obligations imposed by laws, regulations, or orders, and shall file all necessary papers, corrective action programs, and other related documents, provided that nothing contained in this section shall preclude the State from taking such action as may be required of it under any such law or regulation. The State Entity shall have the option of returning or replacing the defective Software at Contractor's expense. If the Contractor is the Software publisher, the Contractor shall perform all necessary repairs or modifications at its sole expense, provided the State determines the performance of such repairs and modifications is in the State's best interest. Payment for the Software shall not constitute acceptance. Acceptance by the State Entity shall not relieve the Contractor of its warranty or any other obligation under this Agreement.</u></p>

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17	10.1.2 Equipment Charges	Payment Terms for the Equipment	<p>Reject []; Accept if modified [X] as follows:</p> <p>10.1.2 <u>Equipment Charges</u>. The price for the Equipment ordered by a State Entity, as contemplated by the Fee Schedule, shall be set out in each applicable Solution Order (the "Equipment Charges"). Contractor shall deliver an invoice for the relevant Equipment Charges to the applicable State Entity in accordance with the following <u>after taking into account the Milestone Payments set forth in Section 10.1.1</u>: (a) fifty percent (50%) of the Equipment Charges following State's completion of initial Acceptance Testing and (b) the remaining fifty percent (50%) of the Equipment charged of the applicable State Entity's confirmation that testing of the same has been satisfactorily completed at the State Site at which such Solution is to be implemented and administered as designated by the applicable State Entity.</p>
17	Disputed Charges	The parties obligations with respect to disputed payments.	<p>Reject []; Accept if modified [X] as follows:</p> <p>10.4 <u>Disputed Charges</u>. In the event State reasonably believes that any invoice submitted by Contractor contains any discrepancies or errors, State shall, <u>within five (5) days of State's receipt of Contractor's invoice</u>, notify Contractor, <u>in writing</u>, of such discrepancy(ies) or error(s). The parties agree to cooperate in good faith to resolve any dispute in a timely manner. Upon receipt of State's notification of dispute, Contractor will investigate such dispute and will either (a) correct such invoice if a correction is so required and provide a corrected invoice or other such notice in writing, or (b) if no correction is required, send State written notice that Contractor has investigated such dispute and that Contractor considers the amounts due and payable and no longer in dispute. <u>Upon the State's receipt of Contractor's written notice regarding the disputed invoice, the State shall provide Contractor with a written response within five (5) days of its receipt</u>. State shall not be required to make payment on any disputed portion of an invoice until such time as the dispute has been finally resolved by the parties. For the avoidance of doubt, a dispute regarding an invoice and State withholding payment of disputed charges as permitted under this Agreement will not permit Contractor to suspend or cease performance of the Services and Contractor shall continue to provide such Services. <u>Notwithstanding the foregoing, the State shall pay Contractor for all invoices which are not otherwise in dispute.</u></p>
17	10.6 State Status as Most Favored Customer	Contractor's obligation with respect to providing the State with Most Favored Customer pricing.	<p>Reject []; Accept if modified [X] as follows:</p> <p>10.6 <u>State Status as Most Favored Customer</u>. During the <u>Initial</u> Term, Contractor shall offer to State and the State Entities the Solution, and any other Services which Contractor offers on a general basis to its other customers at prices at least as favorable as Contractor offers or provides to any Person. In comparing the prices offered by Contractor to other customers with the prices offered to State under this Agreement, (a) the fees paid by State hereunder for the applicable Solution shall be reduced by an appropriate amount to compensate for any installation, training, migration and other services provided by Contractor hereunder at no charge <u>to any other customer</u> and to account for any credits provided by Contractor to State hereunder, and (b) the fees paid by any other Person for the applicable Solution shall be increased by an appropriate amount to compensate for any functionality or service that State receives <u>as part of</u> any such Solution that are not received by such other Person. State shall be entitled to receive, at its request, such information as may be relevant for purposes of determining Contractor's compliance with this Section 10.6.</p>

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			State shall have the right to have independent auditors selected by State, reasonably acceptable to Contractor, review and copy Contractor's <u>relevant</u> books and records solely to determine if Contractor has complied with the terms of this Section 10.6, provided that at no time shall Contractor be required to provide any State or Contractor confidential information (other than the pricing information), and all pricing shall be shown blindly (without other customer names or other means of identification) for applicable Solution or Services, as the case may be. State shall pay all fees associated with retaining such independent auditor. If any such audit reveals that Contractor charges State more than is permitted by this Section 10.6, <u>with respect to purchases made within the previous twelve (12) month period</u> , Contractor shall promptly refund to State all excess charges.
19	11.13 Delay of Payment Due to Contractor's Failure	State's obligations with respect to delaying payments to Contractor.	<p>Reject []; Accept if modified [X] as follows:</p> <p>Please note the number was off in the document provided by the State. This should have been Section 10.11.</p> <p>11.13 <u>Delay of Payment Due to Contractor's Failure. Upon prior written notice to the Contractor, if</u> the State Entity in good faith determines that the Contractor has failed to perform or deliver any component of the Solution for which the State Entity is charged as required by the Agreement, the Contractor shall not be entitled to the compensation under this Agreement corresponding to such components until such components are delivered and/or conform to the requirements of this Agreement. To the extent that the Contractor's failure to perform or deliver in a timely manner causes the State Entity to incur costs, the State Entity may deduct the amount of such <u>actual and documented</u> incurred costs from any amounts payable to Contractor. The State's right to deduct such <u>actual and documented</u> incurred costs shall not in any way affect the State's right to terminate this Agreement or any Solution Order or Services Order.</p>
19	11.14 Set-Off Against Sums Owed by the Contractor	State's obligations with respect to set-off against sums owed to Contractor.	<p>Reject []; Accept if modified [X] as follows:</p> <p>Please note the number was off in the document provided by the State. This should have been Section 10.12.</p> <p>11.14 <u>Set-Off Against Sums Owed by the Contractor. In the event that the Contractor owes the State Entity and/or the State any sum under the terms of this Agreement, pursuant to any judgment, or pursuant to any law, the State Entity and/or the State may, upon providing prior written notice to the Contractor, set off the sum owed to the State Entity and/or the State against any sum owed by the State Entity and/or the State to the Contractor in the State Entity's sole discretion</u></p>
12	Ownership of Contractor Products	Clarification regarding the Ownership of Contractor Products.	<p>Reject []; Accept if modified [X] as follows:</p> <p>12.1 <u>Ownership of Contractor Products. State acknowledges that the Software, Documentation, the training materials provided by Contractor, the design and configuration of the Contractor Equipment, the format, layout, measurements, design, and other technical information associated with the ballots to be used with the Contractor Equipment, the Contractor data bases which are part of the Services, and all copyrights, patents, trade secrets, and other intellectual and proprietary rights therein and thereto (collectively the "Contractor Products") are and shall remain the exclusive and confidential property of Contractor or the third parties for whom</u></p>

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			Contractor is acting as agent or from whom Contractor has obtained the right to use the Contractor Products. For this purpose, the Contractor Products do not include the State Data, including any extract, database, output, reports or derivative works that include or are based on the State Data, or any business or transaction information <u>specifically</u> produced by or for State using the Services or Software (the "Output").
26	15.1.5 Non-Infringement	Contractor's representation and warranty with respect to non-infringement of its products.	<p>Reject []; Accept if modified [X] as follows:</p> <p>15.1.5 Non-Infringement. As of the Effective Date and throughout the Term:</p> <p>(a) <u>To the best of Contractor's knowledge, N</u>one of the Solution, Services, or other Deliverables, nor any portion or component thereof, nor State's use or possession of any of the foregoing as permitted under this Agreement, shall infringe or violate any right, title, or interest (including any Intellectual Property Right) of any third party.</p> <p>(b) Contractor and/or all Contractor Personnel shall be the sole authors of the Solution and any Revisions thereto and Contractor has and shall have full and sufficient right, title and interest (including all Intellectual Property Rights) in and to the Solution. No claim of infringement has been threatened or asserted, or is pending against Contractor (or insofar as Contractor is aware, against any entity from which Contractor has obtained such rights) (the warranties set forth in clauses "(a)", "(b)", and "(c)" collectively the "Non-Infringement Warranty").</p>
28	15.1.14 Third Party Materials	Contractor's obligation with respect to Third Party Materials	<p>Reject []; Accept if modified [X] as follows:</p> <p>15.1.14 <u>Third Party Materials. If the warranties to Contractor shall pass-through and assign all</u> Third Party Materials passed through and assigned to State under Sections 12.7 and 15.2 are not substantially similar to the warranties received by State to the State from Contractor hereunder with respect to the Solution and other Deliverables to be provided hereunder, or if Contractor is not permitted to pass-through and assign such warranties, then Contractor shall obtain comparable warranties from the owner, licensor, or other providers of the applicable Third Party Materials or Contractor shall take appropriate action to ensure that such Third Party Materials are otherwise compliant with the warranties in this Section 15.1 including that they are free of Viruses, preventative routines, and disabling procedures.</p>
29	16.3 Infringement Related Remedies	Contractor's obligations with respect to infringing products.	<p>Reject []; Accept if modified [X] as follows:</p> <p>16.3 <u>Infringement Related Remedies.</u> In addition to and without in any way limiting or excluding Contractor's indemnification obligations, if any party makes any claim or allegation of infringement against State or State Entity based on State's or a State Entity's use of a Deliverable in accordance with the terms of this Agreement and State or any State Entity is actually enjoined from using any Deliverables (or, if Contractor earlier believes that such claim may arise), Contractor shall, at its own cost and expense, and at its option: (a) procure for State a license to continue using the allegedly or potentially infringing materials of nature and scope identical to that contained in this Agreement and without loss, diminution or degradation in the manner of performance or functionality or (b) modify the allegedly or potentially infringing materials so as to make them non-infringing without loss, diminution or degradation in the manner of performance or functionality. If Contractor cannot complete "(a)" or "(b)"</p>

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			above after good faith efforts undertaken for a reasonable period of time, then Contractor shall, at its own cost and expense: (c) procure for State and the State Entities a license to a third-party product (including, if required, engaging a third-party to develop such product on commercially reasonable terms) that will serve as a replacement for the allegedly or potentially infringing materials without loss, diminution or degradation in the manner of performance or functionality. If Contractor cannot complete "(a)," "(b)" or "(c)" above after good faith efforts undertaken for a reasonable period of time, on commercially reasonable terms, Contractor promptly shall refund to State <u>a pro-rated all-amounts</u> paid by State under the Services Order, <u>taking into account the period of time in which the State and/or State Entity was able to utilize the Deliverable</u> , (including any expenses and fees for Third Party Materials) pursuant to which the applicable materials were created.
30	Contractor Proposed New Provision. 16.5 Disclaimer of Damages	Contractor proposes a disclaimer of damages provision be included in the Agreement.	Reject []; Accept if modified [] as follows: <u>16.5 Disclaimer of Certain Damages. Neither party shall be liable for any indirect, incidental, punitive, exemplary, special or consequential damages of any kind whatsoever arising out of or relating to this Agreement.</u>
30	17.1 Term	The parties obligations to carry forward applicable volume credits and applicable discounts in the event the parties agree to renew the Agreement beyond the tenth Renewal Period.	Reject []; Accept if modified [X] as follows: 17.1 <u>Term</u> . This initial term of this Agreement shall commence upon the Effective Date and shall remain in effect for a period of ten (10) years (the "Initial Term"). State shall have the option to extend this Agreement for a period of up to ten (10) successive periods of one (1) year each (each a "Renewal Period") under the same terms and conditions of this Agreement as in effect during the Initial Term, which options may be exercised by the issuance of a "Notice of Award Amendment" by State no later than thirty (30) days prior to the end of the Initial Term or then-current Renewal Period. Without limiting Contractor's obligations under Sections 17.6 and 17.7, in the event the parties wish to renew beyond the expiration of the tenth Renewal Period, or in any event if the parties wish to negotiate a new agreement, <u>subject to mutual written agreement by the parties</u> , all <u>applicable</u> volume credits earned in the prior terms, and at least the same level of <u>applicable</u> Discounts therefor, shall may be carried forward to such renewed or new agreement. As used throughout this Agreement, all references to the "Term" shall be construed to include the Initial Term, all Renewal Periods, and any Transition Assistance Period.
31	17.3.8 Notice of Default	Contractor's ability to cure any defect under the Agreement.	Reject []; Accept if modified [X] as follows: 17.3.8 <u>Notice of Default</u> . State may terminate any Solution Order or Services Order or this Agreement, in the event that Contractor materially breaches any term of such Solution Order or Services Order or this Agreement and fails to cure such breach within the time period specified in State's notice of such breach <u>which shall in no event be less than</u> thirty (30) calendar days <u>unless otherwise mutually agreed upon by the parties</u> , of receiving written notice thereof from the non-breaching party . If the breach or noncompliance is not remedied within the period of time specified in the written notice, the State may (i) immediately terminate this Agreement without additional written notice; and/or, (ii) procure substitute Software, Licensed Programs or Services from another source and charge the difference between this Agreement and the substitute contract to the defaulting Contractor; and/or (iii) enforce the terms and conditions of this Agreement and seek any legal or equitable remedies. For the avoidance

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			of doubt the parties acknowledge and agree that the items listed in Section 17.3 shall each constitute a material breach. If termination occurs prior to the date of Final Acceptance or the 2020 Presidential Preference Primary, whichever is later, and such termination is as a result of Contractor's breach, including Contractor's failure to cure any material defect in any Solution or other Deliverable within any applicable cure period established in this Agreement, then State may elect to terminate this Agreement and Contractor shall immediately (i) refund all applicable Milestone Payments paid by State and (ii) reimburse State for any travel expenses, professional services, out-of-pocket costs and expenses and shipping costs incurred in connection with any terminated Solution Order or Services Order and de-installation and removal of the Deliverable from the State
33	18.1 Notice	Delivery of notices under the Agreement.	<p>Reject []; Accept if modified [X] as follows:</p> <p>18.1 <u>Notice</u>. All notices to be given to the parties hereunder shall be in writing and shall be deemed to have been given and be effective when delivered personally, <u>sent by commercial overnight courier (with written verification of receipt)</u>, or if sent by certified mail, return receipt requested, postage prepaid addressed to the parties at the addresses set forth below.</p> <p><u>If to State:</u> With copies to:</p> <p>2 Martin Luther King Jr. Drive West Tower, Atlanta, Georgia 30334 Attention: Chief Operating Officer Attention: General Counsel</p> <p><u>If to Contractor:</u> With copies to:</p>
35	18.14 Time is of the Essence	Time is of the essence to apply to both parties.	<p>Reject []; Accept if modified [X] as follows:</p> <p>18.14 <u>Time is of the Essence</u>. Time is of the essence with respect to Contractor's the parties' performance of the terms of this Agreement. Contractor shall ensure that all personnel providing Software, Licenses and Services to the State are responsive to the State's requirements and requests in all respects <u>and the State and State Entities shall ensure that all of their obligations are timely performed in accordance with the terms of the Agreement.</u></p>
			<p>Reject []; Accept if modified [X] as follows:</p> <p>18.22 <u>Force Majeure</u>. Neither party shall be liable for, or be in breach of this Agreement because of, any delay or failure to perform its obligations under this Agreement or thereunder resulting from any acts of God, war, insurrection, terrorism or the public enemy, <u>-riots, fire, flood, explosion, transportation delays or interruptions, labor strikes or disputes, utility or communication interruptions and acts of the federal and state governmental authority prohibiting or impeding any party from performing its respective obligations under this Agreement or such other event outside of the control of the parties</u> (collectively, "FM Events"). A party that experiences a FM Event shall give the other party prompt written notice of the FM Event. The affected party shall use reasonable efforts to work around or to overcome the FM Event and to resume full performance under this Agreement as soon as practicable. Occurrence of FM Events will not excuse the backup and disaster recovery obligations of Contractor. Contractor will follow normal procedures for classification, resolution,</p>

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			<p>resolution and escalation of incidents, even if the incident is caused by an FM Event. If an FM Event causes a material failure or delay in the performance of any applications or services for more than five (5) consecutive days, State may, at its option, and in addition to any other rights State may have, procure such applications or services from an alternate source until Contractor is again able to provide them. and Contractor shall be liable for all payments made and costs incurred by State required to obtain such applications and services from such alternate source during such period. If an FM Event causes a material failure or delay in the performance of any application or services for more than thirty (30) consecutive days, State may, at its option, and in addition to any other rights they may have, immediately terminate each affected Schedule and Services Order without liability to Contractor. State shall not be required to pay the fees that may have otherwise been payable for any period of time in which any substantial part of the Solution and Services are not provided as a result of an FM Event. Notwithstanding the foregoing, Contractor shall not be deemed in breach of the Agreement as a result of a FM Event.</p>